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Labor Provisions in Codes Are Reheard

Manufacturers of Paper and Pulp, Newsprint and Paper Bag State that Any Increase In Labor Costs Will Accelerate Collapse of a Major Industry Which Must Discover Additional Resources to Continue Paying Even Present Code Wages—Workers Say Code Has Resulted in Reduced Weekly Wages

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 13, 1934—"Operation of the code has been an utter failure from the standpoint of the worker, and has resulted in reducing the weekly wages of employees in all Union mills." This was the flat statement this morning by representatives of organized labor at a re-hearing on wage and hour provisions in the codes of fair competition for the Paper and Pulp, Newsprint, and Paper Bag Manufacturing Industries. The hearing was conducted by Deputy Administrator W. W. Pickard, in the Carlton Room of the Hotel Carlton.

Offsetting the contention of the workers, representatives of the affected industries contended that "any increase in labor costs necessarily will accelerate the collapse of a major industry which must discover additional resources to continue paying even the present code wages."

S. L. Willson Submits Statistics

S. L. Willson, president of the American Paper and Pulp Association, was the first witness heard. He submitted voluminous statistical information concerning the results of the first month of operation by the paper and pulp industry under the general code. These figures were based on a survey of 209 paper mills and 69 pulp mills for three distinct periods—the month of May, 1929, the month of May, 1933, and the month of December, 1933, and covered approximately one-third of the total production of the industry.

In a prepared statement, Mr. Willson pointed out that 63 per cent of the number of paper mills in the United States are located in towns and cities of less than 10,000 population, and that a survey of 348 mills revealed the fact that 91 were the chief source of employment in towns of less than 2,500 inhabitants. He stated that one month's operation under the code indicated that employment in the pulp, paper and paperboard industry would reach a total of 152,000 for the year, an increase of approximately 17,000 workers over the estimate made at the time of the original hearing on the code. Re-computation of the total payroll, he stated confirmed the original estimate of approximately $170,000,000, or but slightly less than the 1929 record.

Production Decreases But Payrolls Remain Same

The total payrolls reported by 209 paper companies for December, 1933, he continued, were only four-tenths of one per cent less than in May, 1933, despite the fact that production of these same companies was 36 per cent less. This amount, he continued, when spread over the 21 per cent greater number of employees in December, 1933, resulted in a lower average per wage earner for the month; but he pointed out that had the code wage rates and hours of work been in effect in July, August and September, the average earnings per month would have been $79.00, $80.00 and $77.00 per wage earner as compared with the $63.00 received in December.

The advance in wage rates, combined with the employment of 21 per cent more workers, Mr. Willson stated, has materially increased the average conversion labor costs per ton of paper, the increase amounting to approximately 41 per cent. Costs which amounted in May, 1933 to $1 he continued had increased to $1.31 by December, 1933.

In concluding, Mr. Willson called attention again to the fact that the industry's first esimate of additional employment under the code had been exceeded, and that stocks accumulated in the speculative buying period of last summer were near exhaustion, which reasonably would lead to the expectation of more hours of running time and proportionately greater weekly wages.

Substantiates Adequacy of Present Wages

H. W. Ellerson, also representing the American Paper and Pulp Association, followed with a statement in substantiation of the adequacy of present wage rates in the codes. The average of 28½ hours per week in December, he stated, was due to seasonal conditions and it was "manifestly impossible to have the weekly payroll for this abnormally low number of hours per week compare favorably with the 1929 weekly compensation." He cited the fact that for a 52-hour week in 1929, the compensation varied from $9.88 to $16.90 for unskilled labor, while for a 40-hour week under the code the compensation is $12.60 to $14.00. When expressed in purchasing power based on the 1929 commodity value of the dollar, Mr. Ellerson continued, even the wage for the 28½ hour week in December, 1933, was equivalent to $20.20. "In other words," he stated, "reduced to an even level of hours of operation and purchasing value of wages, the 1933 rate is 38.7 per cent higher than the 1929 rate."

(*Continued on page* 18)

Preliminary Schedule of Paper Meetings

Waldorf-Astoria Hotel, New York, February 19-23, 1934

The following is the preliminary schedule of meetings for the fifty-seventh annual convention of the American Paper and Pulp Association and affiliated organizations, to be held at the Waldorf-Astoria Hotel, New York, during the week February 19 to 23 inclusive, 1934. The final program for the meetings will be distributed at the convention.

MONDAY, FEBRUARY 19, 1934

		Room Assignment
Association of Manufacturers and Converters of Tissue Jumbo Roll Association	9:30 A.M.	Le Perroquet X
Association of Manufacturers and Converters of Tissue - Wrapping Tissue Association Executive Committee	9:30 A.M.	Le Perroquet Y
American Paper and Pulp Association and Technical Assn. of the Pulp and Paper Industry, Joint Meeting — Symposium on Paper Classification and Standards	10:00 A.M. All Day	Astor Gallery
Cellulose Wadding Manufacturers Association	10:00 A.M.	Crane Room V
Specialty Paper & Board Affiliates — Tag Board Group	10:00 A.M. All Day	Romany Suite
United States Pulp Producers Association	10:00 A.M. All Day	Jansen Suite
Waterproof Paper Manufacturers Association	10:00 A.M. All Day	Crane Room U
Writing Paper Manufacturers Association — Executive Committee and Executive Authority	10:00 A.M. All Day	Club-Roof
Sulphite Paper Manufacturers Association—Executive Authority and Board of Governors—Luncheon Meeting	12:30 P.M.	Le Perroquet W
Association of Manufacturers and Converters of Tissue - Wrapping Tissue Association	2:00 P.M.	Le Perroquet Y
Association of Manufacturers and Converters of Tissue Paper Towel Association	2:00 P.M.	Le Perroquet X
Salesmen's Association of the Paper Industry—Executive Committee	3:00 P.M.	Crane Room V
Joint Committee on Approved Pulp Testing Chemists	7:30 P.M.	Assembly Room M

TUESDAY, FEBRUARY 20, 1934

Technical Association of the Pulp and Paper Industry General Session	9:30 A.M.	Astor Gallery
Book Paper Manufacturers Association — Executive Authority	10:00 A.M. All Day	Le Perroquet W
Kraft Paper Manufacturers Association — Executive Authority	10:00 A.M. All Day	Le Perroquet Y
Specialty Paper and Board Affiliates, Executive Committee	10:00 A.M. All Day	Carpenter Suite White Room
Sulphite Paper Manufacturers Association	10:00 A.M. All Day	Jansen Suite
Association of Manufacturers and Converters of Tissue, Interfold Toilet Tissue Association	10:00 A.M. All Day	Crane Room V
Waterproof Paper Manufacturers Association	10:00 A.M. All Day	Crane Room U
Writing Paper Manufacturers Association, Rag Content Group	10:00 A.M.	Club-Roof
Salesmen's Association of the Paper Industry—General Meeting	11:00 A.M.	Romany Suite
Salesmen's Association of the Paper Industry—Luncheon	12:30 P.M.	Roof Garden
Speakers: Geo. H. Mead, James E. Gheen		
Paper Makers' Advertising Club—Luncheon	12:30 P.M.	Carpenter Salon
Technical Association of the Pulp and Paper Industry		
Management Division.	2:00 P.M.	East Foyer
Converting and Consuming Division	2:00 P.M.	West Foyer
Engineering Division	2:00 P.M.	Astor Gallery
Association of Manufacturers and Converters of Tissue-Fruit and Vegetable Tissue Association	2:30 P.M.	Romany Suite
Writing Paper Manufacturers Association, Sulphite Bond Group	2:30 P.M.	Club-Roof
Cover Paper Manufacturers Assn., Executive Authority	4:30 P.M.	Crane Room V
Glassine & Greaseproof Manufacturers Association, Executive Authority and Executive Committee — Dinner Meeting	6:00 P.M.	Pillement F

Association of Manufacturers and Converters of Tissue — Executive Committee	8:00 P.M.	Crane Room U

WEDNESDAY, FEBRUARY 21, 1934

Cardboard Manufacturers Association	9:00 A.M. All Day	Assembly J
Groundwood Paper Association, Hanging Paper Division	9:00 A.M.	Assembly N
Technical Association of the Pulp and Paper Industry Operating and Engineering Division	9:30 A.M.	East Foyer
Testing Division	9:30 A.M.	Astor Gallery
American Waxed Paper Association	10:00 A.M. All Day	West Foyer
Book Paper Manufacturers Association	10:00 A.M. All Day	Jansen Suite
Glassine and Greaseproof Manufacturers Association	10:00 A.M. All Day	Crane Room U
Groundwood Paper Association, General Meeting	10:00 A.M.	Assembly N
Kraft Paper Association	10:00 A.M. All Day	Carpenter Salon
Association of Newsprint Manufacturers of the United States	10:00 A.M. All Day	Le Perroquet W
Association of Manufacturers and Converters of Tissue—Board of Governors	10:00 A.M.	Le Perroquet X
National Association of Purchasing Agents, Paper and Pulp Manufacturers—Buyers Group	10:00 A.M.	Romany Suite
Specialty Paper and Board Affiliates	10:00 A.M.	Le Perroquet Y
Writing Paper Manufacturers Association	10:00 A.M.	Club-Roof
Technical Association of the Pulp and Paper Industry Operating and Research and Development Division	2:00 P.M.	Astor Gallery
Operating Division	2:00 P.M.	East Foyer
Association of Manufacturers and Converters of Tissue — General Meeting	2:00 P.M.	Le Perroquet X
Soda Pulp Manufacturers Association	2:15 P.M.	Carpenter White Room
Cover Paper Manufacturers Association	2:30 P.M.	Club-Roof
Specialty Paper and Board Affiliates, Lined Board Group	2:30 P.M.	Le Perroquet Y
Cover Paper Manufacturers Association—Coated Cover Group	4:30 P.M.	Romany Suite

THURSDAY, FEBRUARY 22, 1934

Association of Manufacturers and Converters of Tissue—Holiday Tissue Group	9:30 A.M.	Crane Room V
Technical Assocation of the Pulp and Paper Industry — Engineering and Management Divisions	9:30 A.M.	Astor Gallery
Operating and Raw Materials Divisions	9:30 A.M.	East Foyer
Book Paper Manufacturers Association	10:00 A.M. All Day	Jansen Suite
Bristol Board Manufacturers Group	10:00 A.M. All Day	Carpenter Salon
Gummed Industries Association	10:00 A.M. All Day	Crane Room U
Writing Paper Manufacturers Association — Condenser, Carbonizing, Bible Group	10:00 A.M.	Club-Roof
Technical Association of the Pulp and Paper Industry Annual Luncheon Speaker: Mr. W. W. Pickard, Deputy Administrator National Recovery Administration	1:00 P.M.	Roof Garden
Association of Manufacturers and Converters of Tissue—Waxing Tissue Group	2:00 P.M.	Crane Room V
Board of Governors, American Paper and Pulp Association—Dinner	6:30 P.M.	Jansen Suite

FRIDAY, FEBRUARY 23, 1934

Association of Manufacturers and Converters of Tissue—Roll Toilet Association	9:30 A.M.	Jansen Suite
Executive Committee, A. P. & P. A. and Paper Industry Authority—Association Headquarters	10:00 A.M.	112 E. 42nd St.
Glazed and Fancy Paper Manufacturers Association	10:00 A.M. All Day	Crane Room V
Gummed Industries Association	10:00 A.M. All Day	Crane Room U
Cardboard Manufacturers Association — Clay Coated Boxboadr Group	2:00 P.M.	Assembly J
Cardboard Manufacturers Association — Clay Coated Boxboard Group	2:00 P.M.	Assembly J
Association of Manufacturers and Converters of Tissue—Roll Toilet Association	2:00 P.M.	Jansen Suite

Program for National Paper Trade Association

The following is the preliminary program for the convention of the National Paper Trade Association to be held at the Waldorf-Astoria Hotel, February 19 to 21 inclusive. A. H. Chamberlain, executive secretary of the association, states that the convention gives promise of being by far the largest that the association has ever held.

MONDAY, FEBRUARY 19

9:00 A.M.—Fine Paper Survey Committee — Assembly Room R
Wrapping Paper Survey Committee — Assembly Room P
9:30 A.M.—Wrapping Paper Meeting (Kraft) — Jade Room
10:00 A.M.—Fine Paper Contact Committee: Writing Paper, Cover Paper, Book Paper, Groundwood and Offset Paper — Pillement Suite
11:00 A.M.—Bag Meeting — Jade Room
2:00 P.M.—Gummed Tape Meeting — Assembly Rooms L M
2:30 P.M.—Fine Paper Contact Committee: Bristols and Blottings, Cardboards and Blanks, Envelopes, Greeting Card Paper — Pillement Suite
3:30 P.M.—Tissue Meeting (Toilet, Towels, etc.) — Assembly Rooms J K
4:30 P.M.—Wrapping Specialties Committee — Assembly Rooms L M
5:00 P.M.—Credit Committees: Fine and Wrapping — Assembly Rooms P R
6:30 P.M.—Bag Conference Dinner — Carpenter Suite
8:30 P.M.—Fine Paper Executive Committee — Pillement Suite
8:30 P.M.—Wrapping Paper Executive Committee — Assembly Rooms L M

TUESDAY, FEBRUARY 20

9:30 A.M.—General Meeting, conducted by the Code Authority — Jade Room
Deputy Administrator W. W. Pickard is expected to attend. This will be devoted to full discussion of Code requirements, organization, procedure, reports, cost acounting, etc.
Report on Survey Questionnaires
1:00 P.M.—Luncheon Meeting Board of Directors — Assembly Rooms L M
3:00 P.M.—Fine Paper Division Meeting — Jade Room
3:00 P.M.—Twine Meeting — Assembly Rooms L M
7:00 P.M.—Kraft Conference Dinner Meeting — Carpenter Suite

WEDNESDAY, FEBRUARY 21

10:00 A.M.—Wrapping Paper Division Meeting — Jade Room
2:30 P.M.—Annual Meeting of the National Paper Trade Association — Jade Room
Address, A. D. Whiteside, NRA

American Paper Mill Supply Institute Files Charges With Gen. Johnson

The American Paper Mill Supplies Institute of 62 William street, New York, announced Saturday of last week that charges that monopolistic control of its industry is being brought into being with governmental sanction have been filed with General Hugh S. Johnson, NRA administrator.

The statement said: "Charges that the NRA has encouraged and assisted a monopolistic mill group in officially securing control and domination of the paper mill supplies industry, with governmental sanction, were filed today with General Johnson by the American Paper Mill Supplies Institute, Inc. The American Paper Mill Supplies Institute is an organization comprising more than 750 dealers.

"The protest filed charged that the government has deliberately ignored sworn and conclusive proofs that the Institute represents the majority in number and tonnage of the industry. The government, through Deptuy Administrator Bloch, who, it is charged, is definitely prejudiced and openly favors a small mill group who have masked their operations in the guise of a trade association that pretends to represent the industry, has deliberately scrapped a code of fair practice, and is seeking to impose a labor code alone.

"Stanley Osserman, counsel for the Institute, stated that the imposition of this labor code carries with it a sentence of financial ruin to the industry; it will cause widespread unemployment and compel the shutting down of plants throughout the nation.

"The institute, in November, 1933, asked for the removal of Godfrey Bloch as deputy administrator on the ground that he was unfair and prejudiced and seeking to accomplish then the result that has now been achieved.

"At that time Divisional Administrator Whiteside promised the industry and that institute that if they were not handled fairly by Mr. Bloch they would be by Mr. Whiteside.

"The institute is planning an immediate legal test of the arbitrary action of the NRA in the event that full investigation of its charges is not made.

National Paper Stock Corp. Incorporates

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., February 13, 1934—Articles of incorporation have been filed with the Indiana secretary of state by the National Paper Stock Corporation of this city, with Roscoe C. Johnston, resident agent. The corporation has an initial capital stock of 50 shares having no par value and will deal in paper stock and like products. The incorporators are Lowell E. Kennell, Howard M. Mueller and Roscoe C. Johnston.

Reorganization of Price Bros. & Co. Developing

Preferred Shareholders Committee Expresses Itself as Favoring an Internal Organization But Says It Will Bow to the Prior Rights of the Bondholders Whose Committee Has Insisted on Some Plan Which Will Bring New Capital Into the Company

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., February 12, 1934.—Matters are slowly coming to a head in connection with the reorganization of the giant pulp, paper and lumber corporation, Price Brothers & Co. As already stated amended offers for the carrying out of this reorganization have been made by both the rival interests—the Duke-Price-Beaverbrook-Rothermere Syndicate and the Bowater's Paper Mills. This past week the preferred shareholders' committee reversed itself as definitely favoring an internal organization, but saying that it bows to the prior rights of the bondholders, whose committee insisted on some plan which would bring new capital to the company. In this connection the committee says in a letter sent out to preferred shareholders calling for proxies: "We are advised that the Bowater's agreement with the bondholders' committee will be carried out either by sale from the trustee in bankruptcy, if he accepts the offer, or if the trustee in bankruptcy does not accept the offer, by the trustee for the bondholders through foreclosure and sale. In neither case would a meeting of the preferred shareholders be required as their rights would be foreclosed. While your committee still believes that an internal reorganization would, from the standpoint of the preferred shareholders, be most desirable, this does not at the moment seem likely, and, therefore, your committee states that as between the two offers as now before them the Bowater offer is preferable to the bankrupt company's offer and recommends accordingly."

Common Shareholders' Protective Committee

Meanwhile, in order that the interests of common shareholders of the company may be protected to the fullest possible extent a protective committee for them has been founded consisting of E. R. Decary, president of the Title Guarantee and Trust Corporation, of Montreal, as chairman; Robert Kernan, president of Donnacona Paper Company, of Quebec; Alastair Gowan, C. A., of Riddell, Stead, Graham and Hutchison, of Montreal; N. H. Macaulay, of Hansons and Macaulay, of Montreal; Hugh Mackay, vice-president Canadian Lumbermen's Association, of Montreal, and W. C. Pitfield, president of W. C. Pitfield and Company, Limited, of Montreal; with J. A. Weldon, C. A., as secretary; the committee's address being 235 St. James street, Montreal.

Another Interesting Development

Another interesting development is that Bowater's Paper Mills, of London, England, who are seeking control of the company, has taken out Canadian incorporation and notice to this effect appears in the current issue of the Canada Gazette.

The name of the Canadian company will be Bowater's Canadian Paper Corporation, Limited, and operations will be carried on throughout the Dominion of Canada and elsewhere. The capital of the company will consist of 600,000 common shares without nominal or par value, with head office in Montreal.

This would indicate that the British company has decided to come into the Canadian market whether it is able to obtain control of Price Brothers or not.

Still another development is the improvement which has taken place in the position of Price Brothers during the last nine months. Bank loans have been reduced from $3,591,000 to $2,290,000—a reduction of $1,299,000 and an improvement in the Company's cash position of about $1,100,000.

Tremendous Improvement in Business

From Ottawa it is reported that with 12,000 to 15,000 men engaged in bush operations in Eastern Canada, as a whole, and with an increase of between 60 and 70 per cent in the number engaged in the Gatineau area, the Canadian International Paper Company reports a tremendous improvement in business and much brighter prospects generally for 1934.

It was stated that last year at this time the company did not have more than one-third the number of men in the bush they had at present.

"There is no question but that we are experiencing much better business lately than at this time a year ago," stated a prominent official of the company. He said the company would cut this winter about 80,000,000 feet of logs in the Gatineau area and about the same quantity along the upper Ottawa. Last year not more than 15,000,000 feet was cut in the Gatineau.

J. R. Booth Ltd. Report Improvement

Improvement in their business over last year was also reported by Walter M. Ross, secretary of J. R. Booth, Ltd., who did not care, however, to give any figures showing the percentage of gain.

Cold Weather Affects Woods Operations

With a long spell of extremely cold weather, the thermometer for many days hovering around between 25 and 45 degrees below zero in the forest regions, the pulpwood cut in camps on Crown lands in the Province of Quebec this winter will be far less than was anticipated before operations began, and it may be that there will be a shortage of such wood. This statement was made at a meeting of the Quebec Forestry Products Commission here.

Big Paper Exports to England

A despatch from Halifax, N. S., says: "Heralding approach of much new business in paper export," the "greatest consignment of newsprint ever to leave Canada," will be loaded at Halifax this month for shipment to England, according to Louis Coutier of Quebec, representing the Anglo-Canadian Pulp and Paper Company Limited.

Following completion of satisfactory arrangements with officials of the Halifax Harbor Commission last night, Coutier said 5,600 tons of paper would be shipped on 200 railway cars from Quebec to this port, where it will be loaded on the freighter Geraldine Mary.

The previous record shipment, Coutier said, was 5,550 tons, made from Quebec on the S.S. Glenworth in 1928.

"If this proves satisfactory," he added, "it will mean the approach of much new business in paper export, not only for my company but for others."

Wisconsin Paper Group Begins to Function

Organization Formed Two Years Ago Embraces All Paper Mills in Fox River and Wisconsin River Valleys, and Other Sections of Badger State—Group Plans to Facilitate Handling of Tonnage by Member Mills by Pooling Into Car Load Lots

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., February 12, 1934—With the opening of permanent offices in the Neenah State Bank Building, Neenah, Wis., the Wisconsin Paper Group has begun to function along the lines anticipated when the organization was formed about two years ago.

D. W. Bergstrom Elected President

At the annual meeting of the group held at Neenah recently, D. W. Bergstrom was elected president. He is vice-president of the Bergstrom Paper Company, Neenah. Leo Croy, of the Carton Division of the Marathon Paper Mills Company, Menasha, Wis., was elected vice-president; and Leo Schubart, treasurer of the Neenah Paper Company, Neenah, was named treasurer. The executive secretary is Irwin Pearson, former manager of the Jersild Knitting Company, Neenah, Wis.

The Wisconsin Paper Group embraces all paper mills in the Fox River Valley, the Wisconsin River Valley and other parts of Wiscinsin. Its chief purpose is to facilitate handling of the tonnage by member mills by pooling into carload lots. Many advantages will be gained on freight rates both for the manufacturer and the jobber. More than 200 grades of paper are represented by the membership.

Paper Products Pool

This will be the second organization of its kind to function in the Wisconsin paper industry. Another, known as the Paper Products Pool, has been operating successfully for some time among paper converters, but on a smaller scale. This pool operates from Green Bay, Wis., and its members are: Diana Manufacturing Company, and Straubel Paper Company, Green Bay; Wisconsin Tissue Mills and Edgewater Paper Company, Menasha, Wis.; School Stationers Corporation, Neenah, Wis.; Russell Box Company, Medford, Mass., and Jay Dee Products Company, Brooklyn, N. Y. The officers are: R. A. Stough, sales manager of the Wisconsin Tissue Mills, president; James Straubel, of the Straubel Paper Company, vice-president, and John Juley, Green Bay, Wis., secretary.

Jobbers are kept informed of the Paper Products Pool operations, and the products its customers offer through a monthly house organ of eight pages, full magazine size, entitled "Paper Products Pool." It is printed in black and red on enameled stock. Market and sales information and inspiration feature its pages, and the products of the pool members are announced in two-color advertising and write-ups.

Paper Board Code Problems

Whether the program started some time ago by the late Willits Pollock, Milwaukee, Wis., on behalf of leading paper board and container manufacturers, to buy up small and unsuccessful mills and remove them from competition for the good of the industry in general, will coincide with the NRA code for the paper and pulp industry probably will be learned at the hearing scheduled February 15 in Washington, D. C. A number of mills were purchased and taken out of production before the code was adopted. The work since the death of Mr. Pollock has been directed by Alan G. Goldsmith, vice-upresident of the Milwaukee Corporation, Milwaukee, Wis.

The paper and pulp industry's code authority has recommended that restrictions be established on the acquisition by any member of the industry of new equipment for the manufacture of products of the industry and the shifting from the manufacture of one type of product to another.

The paper board industry proposition calls for a corporation with a capital stock of one million dollars to be sold throughout the industry to purchase plants which "cannot operate successfully under normal business conditions." No attempt would be made to purchase plants against the wishes of the owners.

TAPPI Lake States Program

Four talks on plant maintenance were scheduled for the February meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry at Appleton, Wis., February 13. Speakers were to be: E. P. Gleason, Nekoosa-Edwards Paper Company, on steam and electrical equipment; Grover Keeth, Marathon Paper Mills Company, Rothschild, Wis., on paper machines and auxiliary equipment; H. W. Gochnauer, Northern Paper Mills, Green Bay, Wis., on corrosion in mill construction, and G. H. Suhs, Rhinelander Paper Company, Rhinelander, Wis., on care and maintenance of pulp mill equipment.

News of the Industry

Hoskin-Morainville Paper Company, Menominee, Mich., has asked for a change of venue in the new trial granted the company in its suit against the Bates Valve Bag Corporation for damages of approximately $250,000 allegedly caused by failure to carry out production and purchase agreements. The jury granted $7,000 damages in the first trial, and Judge Bell granted a new trial on evidence that the jurors had been entertained at a hotel after the verdict by the defendants.

Counsel for the Bates corporation announced that a writ of mandamus would be sought from the supreme court of Michigan directing the circuit court to set aside its order for a new trial on the ground that the order for a new trial was an abuse of discretion.

R. A. Stough, sales manager of the Wisconsin Tissue Mills, Menasha, Wis., has been elected president of the Community Business Association of Menasha. It is an organization to boost the community and its business concerns.

A. C. Gilbert, president of the Gilbert Paper Company, Menasha, Wis., has been elected president of the Children's Country Home at Winneconne, Wis., an institution beneficial to under-privileged youngsters. F. J. Harwood, president of Appleton Woolen Mills, Appleton, Wis., is on the board of directors.

American Tissue Mills Meet

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., February 13, 1933—The annual meeting of the American Tissue Mills, Inc., was held last week, Benjamin F. Perkins being elected president and general manager. The other officers are: treasurer, J. Louis Perkins; vice-president, Mrs. Marion Perkins Duryea of Longmeadow; chairman of board of directors, Mrs. Albina Perkins; assistant treasurer, William F. Otto; directors, the foregoing and Atty. Thomas C. Maher.

Great Lakes Paper Co.'s Report Favorable

Receiver's Gross Profit for Five Months Period Ended November 30 Was $73,948, Before Provision for Interest and Depreciation—Major Items Include Gross Profit on Newsprint Sales of $124,593 — Reorganization Not Regarded Practicable Now

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., February 12, 1934—While reorganization of Great Lakes Paper Company at Fort William, Ont., is not regarded as practicable, the question is receiving the serious attention of the bondholders' protective committee, according to a circular just forwarded to holders of certificates of deposit of first mortgage gold bonds, series A. Owing to unstable conditions in the industry, the letter adds, it has not yet been possible to determine the earnings basis upon which reorganization could be effected. It is hoped, however, that further violent price fluctuations may be prevented through co-operation of Canadian and United States manufacturers under the proposed NRA code. But the committee note that "current price is still most unsatisfactory" from the producers' standpoint.

An appended statement showing position of the receivership as at November 30, 1933, reveals the current assets as totaling $1,520,678, while current liabilities are only $446,200, leaving net working capital of $1,074,478. Current liabilities include $63,630 as reserve against possible claims, as well as a reserve of $118,614 for contingencies.

Receiver's profit and loss account for five-month period ended November 30, shows gross profit of $73,948 before provision for interest and depreciation. Major income items included gross profit on newsprint sales $124,593, and exchange premiums on United States funds $24,596. For the approximate two-year period from July 13, 1931, to June 30, 1933, receiver's gross profit was $310,417 before depreciation and interest.

Dryden Results More Favorable

Favorable results of changes in several economic factors are expected to work out to the advantage of Dryden Paper Company, with mills at Dryden, Ont., during the current year. The company, with such a large proportion of its production consisting of sulphate kraft pulp, has its big market in the United States. During the past year, before the American dollar was depreciated to such a large extent, Scandinavian exporters found a profitable market in the States. With the change in the value of the dollar, however, prospects that some of this business will accrue to Dryden are brighter. Better business throughout the West, due to improved agricultural conditions, brightens the outlook for the company this year. It is also figured that the industrial and commercial expansion now in progress throughout the country will be reflected in a greater demand for Dryden's various lines of manilla and building paper and bags. That this condition has already begun to make itself felt is indicated by the report that the company has been earning more than bond interest requirements since the middle of 1933.

Hinde & Dauch in Good Position

Hinde & Dauch Paper Company of Canada, Ltd., Toronto, reports net earnings after charges for the first time in several years in their statement for the year ended December 31, 1933. Although normal conditions have not yet been re-established in the box fabricating industry, some extension of business and economies resulted in profits from operations for the period of $334,123, compared with an operating profit of $205,818 in the previous year. After the usual charges for taxes, depreciation and bond interest, the company showed net earnings of $88,589, which was further reduced by reserves for income tax to $78,929, as against a deficit in the previous year of $57,271. The liquid position of the company continues strong, working capital at the end of 1933 amounting to $606,382, as compared with $422,410 at the end of 1932. The company has no bank loans, and as a result of sinking fund purchases the amount of first mortgage bonds outstanding was redueed from $1,289,500 in 1932 to $1,245,000 in 1933. In his remarks to shareholders, Sidney Frohman stated that the box fabricating units were capable of producing at least double the tonnage they did during 1933. During the period under review, capital expenditures to the extent of $33,000 were made toward effecting economies in operation, and approximately $90,000 was spent on repairs and maintenance of properties.

Notes and Jottings of the Trade

A charter has been granted to Maritime & Gaspe Pulpwood, Ltd., the head office of which is in Campbellton, N. B. George W. Kerr is president and Hugh A. Kerr vice-president. The company will not do any manufacturing and its chief business will consist of buying and selling pulpwood in the Maritime provinces and the Gaspe peninsula.

John A. McWilliams, aged 43, sales manager of the Mersey Paper Company, Liverpool, N. S., died suddenly in an hotel at Halifax. He was a native of Toronto and had been in the newsprint business for many years. After serving overseas he went to the Abitibi Power and Paper Company and later to Nova Scotia to take charge of the Mersey Paper Company's sales department.

Canada maintains her position as the chief source of Japanese imports of paper and pulp, writes J. A. Langley, commercial secretary in Tokyo. In fact 64.8 per cent of the Japanese paper imports came from Canada in the first five months of 1933, as compared with 48.5 per cent in the corresponding period of 1932. Due to recent importations of rayon pulp from the United States Canada's share of Japanese pulp imports in the period, January to May, 1933, was reduced to 30.8 per cent of the total, as compared with 32.4 per cent in the same months of 1932. Neverthelss, Canada remains chief foreign supplier of pulp, as well as paper.

E. C. Atkinson of Fredericton, N. B., estimates that between 700 and 800 men are now employed in pulp and lumber operations along the Shore Line Railway. A rough survey of pulp operations shows that Grant & McDonald anticipate a cut of nearly 5,000 cords destined for shipment to the Port Royal Pulp and Paper Company plant. Morris Phillips, Penfield, will ship 3,000 cords to Maine, and Mr. Atkinson, Lepreau, will have 3,000 cords for spring shipment to the Fort Royal mill. There is also a large cut being made in the vicinity of St. George for the pulp mill there. This mill will be able to resume activity soon, it is said.

LABOR PROVISIONS IN PAPER CODES ARE REHEARD

(Continued from page 11)

After pointing out that the proportion of the sales dollar going to labor had increased substantially with adoption of the general code, Mr. Ellerson declared that any adjustment of wages "substantial enough to correct the economic situation" would be not only impractical but impossible. "If it is desired to increase average earnings," he stated, "to a level comparable in dollars to that of 1929, it will be necessary to reduce the number of workers in the industry so that those remaining may enjoy larger weekly earnings."

Many Paper Mills Lose Money in Best Years

R. S. Knapp, representing the Reading Paper Mills, stated that the existing wage rates were necessary from the standpoint of smaller mills. He declared that the purpose of the Recovery Act was "to try to put industry back on its feet," and that the code must be worked out in a spirit of "give and take." Mr. Knapp stated that in the "good years" of 1925 and '26, approximately 33-1/3 per cent of paper mills had lost money, and that so far as he was personally concerned he would "rather be a well-paid technical employee than to have the total net income of one-half of the manufacturers in a good year." Replying to a question by the Deputy Administrator, Mr. Knapp stated that any higher wages would have the effect of "forcing the small mills to the wall."

Paying Greatest Wages Possible

A. L. Hobson, representing the Newsprint Code Authority, stated that it was inconceivable that any further evidence than the figures presented at previous hearings was necessary to show that this industry was paying the greatest possible wages. Even during the first six months of 1933, he testified, newsprint was being sold below the cost of production, and "any increase in labor costs necessarily will accelerate the collapse of an industry which must find additional resources to continue paying even the present code wages." He expressed belief that employees realized that the mills were doing their very utmost to carry on, and that it would be impractical to have newsprint manufacturers assign a wage differential from that in the paper and pulp code.

Speaker for Paper Bag Institute

John Harvey, president of the Paper Bag Institute, testified that the code for paper bag manufacturers had become effective only on February 5 and that the industry had no opportunity as yet to gather statistics on its operation. He asked that the Administrator bear in mind the fact that 50 per cent of employees in the paper bag industry are women who do much lighter work than female workers in paper mills, and that the Southern area be given the same differential for female labor as might be decided upon for any other zones.

Arthur Huggins Represents Brotherhood

Arthur Huggins, representing the International Brotherhood of Papermakers, testified that there was such a degree of dissatisfaction and discontent among workers that his union membership had increased 250 per cent since the code hearing on September 14. He proposed that the maximum hours be limited to 36 per week, with 144 weekly hours for machine operation. He asked also that the code recognize only two wage zones instead of the present three, and that the minimum wages be set at 45 cents per hour for males and 40 cents for females in the North, and 42½ cents and 37½ cents, respectively in the South. This wage increase, he stated, was justified by the fact that the paper industry as a whole had been reported to occupy second place on a list of the most profitable major industries in 1932. Mr. Huggins further requested elimination of "ambiguous" provisions for the adjustment of wages above the minimum, and asked that employers be obliged to make equitable adjustments with a proviso that the weekly wages of no person be cut below those he was receiving on February 1, 1934.

Asks Same Wages for Men and Women

Miss Marie Correll, of the Women's Bureau, U. S. Department of Labor, asked that the same wage rate apply to both men and women, and that all wage rates be raised to a point sufficient to furnish "adequate" weekly earnings. She stated that wage rates in some instances were lower under the code than those required by the President's Reemployment Agreement, and that she was opposed to any "averaging" of the maximum weekly hours for the 11,000 women employed in the paper and pulp industry.

Miss Florence Barnes, representing the National Women's Trade Union League, asked that the code be revised to eliminate both sub-minimum wages as well as differentials based on either geographical areas or sex.

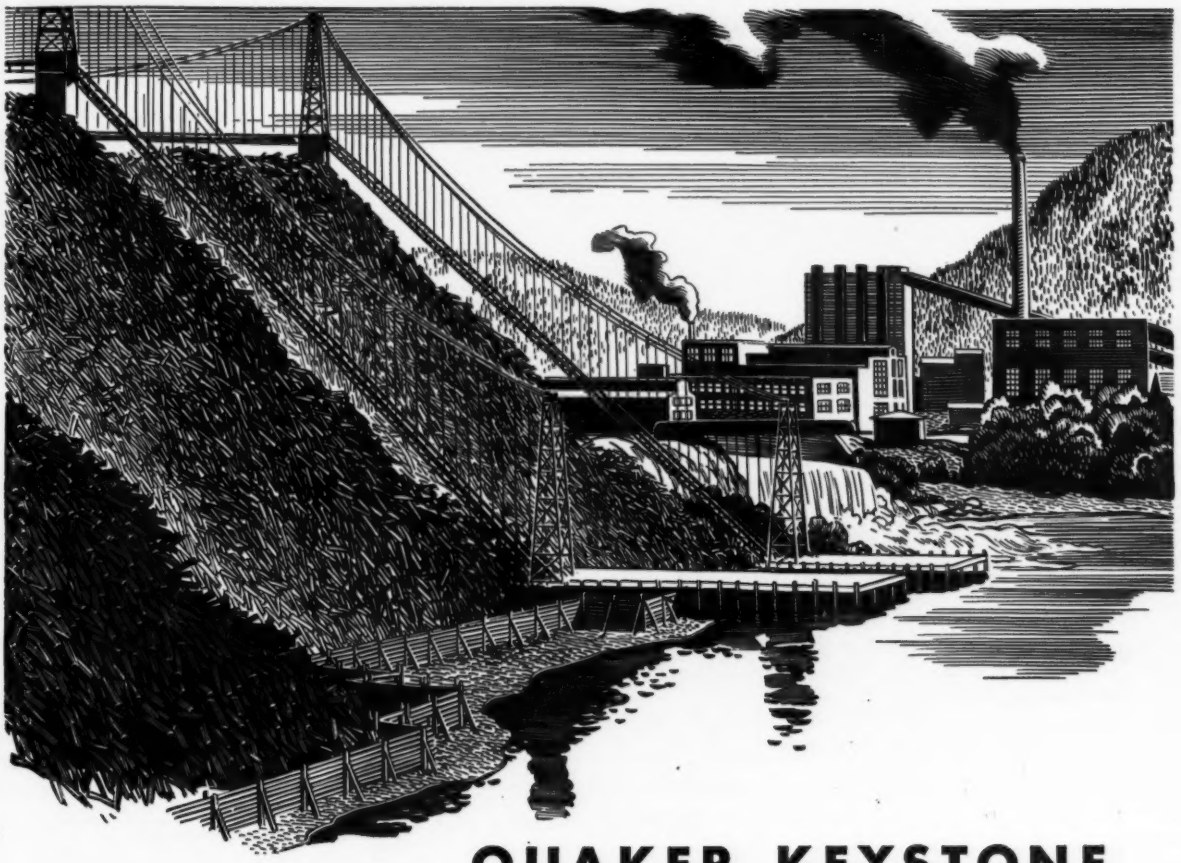
John P. Burke Says Code Has Reduced Wages

John P. Burke, president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, and sitting as a representative of the NRA Labor Advisory Board, protested that "the code has resulted in reducing the weekly wages of employees in all union mills." He stated that organized labor now requested that there be but two wage zones, and that the minimum rates be set at 45 cents per hour for males and 40 cents for females in the North, and 42½ cents and 37½ cents, respectively, in the South. He also insisted that the same weekly wage be paid for any shorter hours that might result from operation of the code. Mr. Burke read a number of communications received from workers in the Pacific Northwest territory who urged that the maximum week be set at 36 hours, with a $20.00 weekly minimum wage.

In conclusion, Mr. Burke asked that the NRA move to bring about a conference between U. S. and Canadian producers of newsprint to the end that a production allotment of at least 1,250,000,000 tons of newsprint per year be assigned to mills in the United States.

From Worker's Standpoint Code Has Failed

Andrew Nickerson, representing employees of the Great Northern Paper Company, stated that "the code has been an utter failure from the standpoint of the workers." He charged that workers had been re-classified so that some had received a wage cut of $16.00 per week, and that machinery in the grinding department had been so speeded up that employees had lost three hours of work a week. This loss, he stated, more than counteracted an increase of 72 cents per week in wages, and had a net result of reducing the individual pay envelope by 79 cents a week. He submitted living costs data gathered from merchants in his home town of Millinocket, Me., which showed that articles of men's



QUAKER KEYSTONE CHLORINE

CHEMICALS for the PAPER INDUSTRY

CHLORINE ALUM
PENCHLOR
(High-Test Calcium Hypochlorite)
SODIUM ALUMINATE
CAUSTIC SODA
PENCHLOR ACID PROOF CEMENT
ANHYDROUS AMMONIA
BLEACHING POWDER
(*Standard Strength*)

The dependable quality of this product is the result of more than eighty-two years' experience in making chemicals for industry.

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We will be glad to furnish highly specialized technical advice on request, without cost.

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EXECUTIVE OFFICES, WIDENER BLDG., PHILADELPHIA, PA.
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clothing had advanced from 10 per cent to 100 per cent in the last six months, and that cotton goods were up to 50 per cent, potatoes 100 per cent, beans 35 per cent, tea 40 per cent and flour 75 per cent.

Has Cost the Working Man Money

Wm. Gruber, an employee of the Oxford Paper Company, stated that increased employment under the code "has cost the working man money." His mill, he stated, had given day workers an increase of 12½ per cent in pay, but had reduced their daily hours from 9 to 8, with a result that a mechanic who received $26.89 in July, 1933, for a week's work, was paid only $23.52 for a week in January, 1934. He charged that some employees had piled up an excess of 96 hours in overtime and now were able to be employed only one or two days a week. The witness asked that time and one-half be paid for all Sunday and holiday work and for all time worked "out of regular hours." Living costs in his town also were higher, he stated, with shopkeepers reporting advances of 15 per cent over the costs of five months ago.

J. P. Jones, an employee of the Pejepscot Paper Company, stated that the minimum wage rates in the code had lowered weekly wages by 20 per cent since May, 1933, and that the rate was "totally inadequate" in view of the fact that hours of labor must be further reduced to take care of unemployment. Mr. Jones insisted that increased costs of manufacture should be passed on to the "consumer in the form of a fair price for paper."

Files Recommended Changes

John L. Donovan, representing the NRA Labor Advisory Board, filed for the record a list of recommendations which called for changes in virtually all the labor provisions of the code. He called attention of the Deputy Administrator to the fact that average weekly wages had been reduced 23 per cent by the code, and that the average weekly hours worked in the industry during the month of December was less than 30.

After Warner I. Cubberly, representing the Minerva Paper Company, the Oregon Pulp and Paper Company and the Columbia River Paper Mills, filed briefs in support of the code's wage rates, the Deputy Administrator declared the hearing adjourned subject to his call.

To Control Productive Machinery

A plan designed to control productive machinery in the paper and pulp industry was submitted at the hearing. The proposed recommendations were presented by S. L. Willson and F. E. Sensenbrenner, on behalf of the Paper Industry Authority.

Citing the industry's over-capacity and the destructive practice of "grade shifting" said to prevail in the industry, Mr. Willson urged the adoption of a proposed method of productive machinery control. Many of the 24 divisions, all under the jurisdiction of the General Code, have identical equipment that is frequently used for the production of products of other divisions, he said. This practice, known as "grade shifting," he asserted is the chief reason for destructive competition in the paper industry. "The purpose of this recommendation," Willson added, "is to control in a plan-wise system indiscriminate shifting and to stop the destructive practices that are always associated with 'grade shifting'."

In a supporting statement, Mr. Sensenbrenner said that the proposal does not contemplate restriction on replacement of new equipment. Neither does it prohibit "shifting," if those who desire it can demonstrate to the Administrator that it can be done without detrimental effect, he said. This tentative arrangement, he asserted, is only offered as a temporary measure to care for an existing emergency.

The very nature and setup of the various divisions is ample protection against monopoly, Mr. Sensenbrenner declared, and "greater benefit would be derived from the proposal by small members in the industry, since the practice of 'shifting' is more harmful to small producers," he added.

Expressing the opinion that the proposed recommendations "might be susceptible to misinterpretation," M. S. Flint, representing the Brown Company, of Portland, Maine, submitted a clarifying clause for the purpose of protecting manufacturers who make a varied line of papers in the industry.

Newsprint Authority Opposes

In a statement vigorously opposing the recommendations, Thomas Allen, representing the Newsprint Code Authority, asserted that the newsprint industry had no desire to shift from newsprint to any other grade of paper. But, he continued, the industry will be forced to manufacture some other type of paper unless ample protection is accorded from foreign competition.

"The newsprint industry," Allen concluded, "represents an investment of $300,000,000, which is threatened with sterilization by these proposed recommendations. To provide that an owner of machinery may use it only for certain purposes and not shift its use to other purposes in fields where other concerns are already entrenched, would seem to be a deprivation of property without any compensation being paid to the owners thereof."

Recommendations Proposed

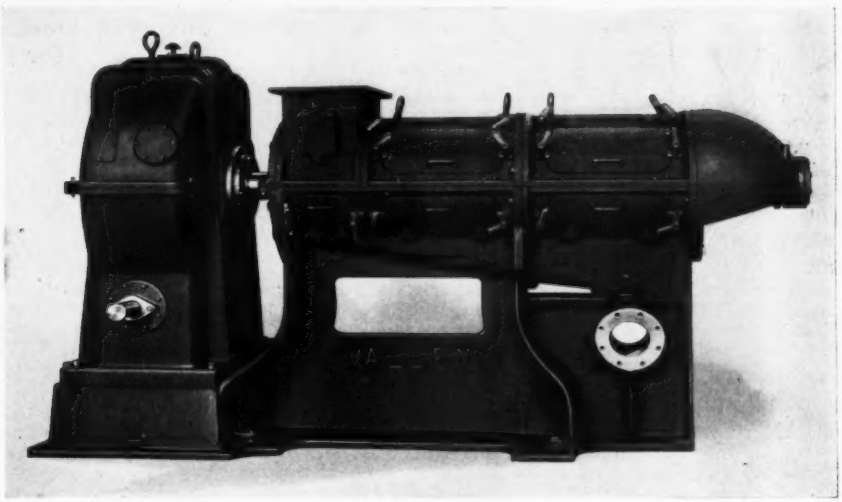
The recommendations proposed by Messrs. Willson and Sensenbrenner relative to the control of productive machinery follow:

"1. Each member of the Industry shall on or before such date as shall be determined by the Paper Industry Authority, register with it all of his productive machinery for producing products of the Industry and shall likewise register with the Executive Authority of each Division having jurisdiction of any products made by such member his productive machinery for the manufacture of such products. He shall furnish such information as to location, age and condition of such machinery, the extent to which it has been operated in prior years and the kind or type of product or products now or heretofore produced on such machine as the Paper Industry Authority may require.

"2. If the productive machinery of any member shall be registered in more than one Division the aggregate amount of capacity of such member to be allocated to each Division shall be determined by such member and the respective Divisions concerned and if they are unable to settle any such question among themselves such question shall be determined by the Paper Industry Authority which for that purpose shall have the right to determine whether and to what extent such machinery may be properly classed as productive machinery and the division or divisions within which such machinery shall be entitled to be registered.

"The aggregate capacity of each member allocated to all divisions of the Industry shall equal, and may exceed, the aggregate capacity of all the machinery of such member less the capacity, if any, of machinery of such member not entitled to be registered in this industry.

"All decisions of the Paper Industry Authority hereunder shall be subject to review by the Administrator on the application of the member concerned; and any member may



How Much Money ....would the Screw Press have to save?

BEFORE you install a new piece of equipment you want to know how much it will save, or how much it will improve your product.

In considering the Screw Press, let's ask how much it would have to reduce your dewatering costs to be profitable to you. Would it have to pay for itself in one year, three years, five years, or how many?

The actual cash savings of the Valley-Voith Screw Press naturally vary in different mills. Seldom are two conditions alike. Therefore, in order to show you exactly what results may be accomplished in *your* mill, we need a few basic facts about your own dewatering methods.

If you will drop us a line indicating your interest, we will gladly send one of our engineers to your mill to get the information we need; and then, at no obligation to you, submit a complete analysis of what savings can be effected with the Screw Press as they apply to your own production set-up.

May we have this opportunity?

A Few Valley-Voith Screw Press Applications

High density bleaching.
Dewatering pulp mill screenings for fuel.
Pulp blowing systems.
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Plant: Appleton, Wisconsin

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Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

Beaters • Jordans • Voith Stock Inlets • Roll Wrapping Machine • Pumps • Deckers
Screw Presses • Laboratory Equipment • Plug Valves • Flat and Rotary Screens

appeal to the Administrator for a decision in the event that the Paper Industry Authority shall not make a decision within a reasonable time after any controversy between any member and any division or divisions shall have been presented to it for decision.

"3. No machinery shall be registered for the production of any product of Industry unless such machinery shall have been used for the production thereof in substantial quantities between January 1, 1932, and December 31, 1933, except that if any such machine has not been operated for an aggregate period of six months since January 1, 1932, such machine may be registered for the product or products which were produced thereon during the last six months that such machinery shall have been operated. Provided, however, that any machinery which was in process of installation on the effective date of the General Code shall be entitled to registration for the production of which such machinery was being installed.

"4. Before any person whose machinery is not, in accordance with the provisions of paragraph 3, entitled to be registered in any particular division of the Industry shall produce any products of such division, a certificate shall be required as hereinafter provided.

"5. After the capacities in any Division shall have been determined in accordance with paragraph 2 hereof, before any member shall, in any division in which he shall have registered capacity, produce in any calendar year in such Division in excess of his registered capacity, a certificate shall first be obtained from the Administrator that such production will be consistent with effectuating the policy of the Act during the period of the emergency.

"6. Applications for the certificates referred to paragraphs 4 and 5 hereof, shall be filed with the Paper Industry Authority which shall transmit them to the Administrator with its recommendations thereon, after not less than ten days' notice, to the Executive Authority of the Divisional Organization covering the product to which such machinery is to be shifted, specifying in such notice the date upon which such application will be transmitted. The Executive Authority of such Divisional Organization may transmit to the Administrator its recommendation with respect to any such application. The Paper Industry Authority shall, at its request, have the right to be heard before any such certificate shall be granted by the Administrator.

"7. When any Division shall have formulated any plan for control of production within such Division or the Paper Industry Authority shall have formulated any plan for control of production for the Industry and the same shall have been presented to and approved by the Administrator and shall have become effective, the requirements for a certificate as hereinbefore provided shall be terminated in respect of the products of such Division or of the Industry as the case may be if and to the extent that such termination shall be provided for in such plan."

Hearing to Restrict Installation of New Productive Equipment

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 14, 1934—Public hearing is to be held on February 28 on a proposal by the code authority for the paper and pulp industry that the approved code for that industry be amended to place restrictions on the installation of new productive equipment. Deputy Administrator W. W. Pickard will preside.

The proposed amendment would make it necessary for members of the paper and pulp industry to obtain the consent of the NRA to install new machinery, except for replacements which would not materially increase production.

Ingersoll Develops 23-11 Stainless Clad Steel for Pulp and Paper Mills

It is evident that the corrosion problem, which has long been one of serious concern in the pulp and paper industry, has yielded to research, as indicated by the development of the 23-11 stainless clad steel by the Ingersoll Steel and Disc Co., a division of the Borg-Warner Corporation, Chicago.

This new clad alloy, known as "IngOclad 23-11" is a two-ply stainless steel having a 20 per cent stainless layer of 23 per cent chrome, 11 per cent nickel bonded to a back of mild carbon steel and produced under the well known Ingersoll Ingot Patented Process—the same process that has been producing an 18-8 grade of IngOclad during the last several years.

For a time the 18 Chrome-8 Nickel stainless steels met most of the corrosion problems of this industry, but the use of the 18-8 alloys was somewhat of a compromise, its acceptance being based on the hypothesis that it was the most satisfactory alloy available for certain applications. Other stainless alloys have been developed, but with all of the solid alloys high initial costs were encountered.

In the development of the 23-11 clad material it is claimed that it will resist the forms of damaging corrosion attack encountered in both sulphite and sulphate pulp and paper mill applications to better advantage than the regular 18-8 series of alloys and at a price which is materially less than the cost of comparable solid stainless steels.

When welded with a 25-12 chrome nickel electrode this new alloy is equal or superior in corrosion resistance to the special types of 18-8 stainless steels for most of the pulp and paper mill applications. The material is available in sheet or plate form in all commercial sizes.

It is expected that this class of material will, on account of its initial low cost and special adaptation to the pulp and paper industry, usher in a new trend throughout the industry toward the wider use of corrosion-resistant alloys to improve papers and add to the life of mill vats, tanks, machinery and equipment.

Hoists for Every Purpose

The Harnischfeged Corporation, 4400 West National avenue, Milwaukee, Wis., has issued a new bulletin on "Hoists" for every plant and purpose. This interesting publication treats upon the application of hoists to both general and specific problems. Profusely illustrated in color with photographs of installations and diagrams explaining simplified construction and operation, it covers the vital points in modern hoist design. The bulletin lists the ratings and operating ranges for type "R" hoists along with specifications and electrical accessories. Copies may be had upon application to the company's agents and representatives or to the factory directly. Ask for Bulletin No. RH-1.

Mason-Neilan Transfers Church

Donavon B. Church has been transferred from the San Francisco branch office to the factory engineering department by the Mason-Neilan Regulator Company, Boston, Mass., manufacturers of automatic regulating and control equipment.

Mr. Church is widely known because of his years' experience in the oil and process industries as a control engineer. He was formerly located in both Bakersfield and Los Angeles, California, with the Neilan Company, Ltd., which is now consolidated in the Mason-Neilan Regulator Company.

Norton Pulpstones are engineered to fulfill precisely the production requirements of each particular mill.

Norton Pulpstones are custom-made.

NORTON COMPANY, WORCESTER, MASS.

NORTON PULPSTONE

Obituary

Captain Freemont Kimball

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., February 12, 1934—Captain Freemont Kimball, during the latter years of his life engaged in the wholesale paper trade, died Saturday at the residence of his son, Harry Kimball, Morrison road, Wakefield, Mass. He was one of a family of nine brothers, all of whom with one exception were seafaring men. He was 25 years at sea. He was a member of the Masons and connected with the Emmanuel Episcopal Church in Wakefield. Captain Kimball is survived by his widow, Mrs. Ida E. Kimball, a son, Harry Kimball, and a sister, Mrs. Ardell Stuart, of Seattle.

Frank W. Kennedy

Frank W. Kennedy, vice-president and general manager of the De Laval Steam Turbine Company, Trenton, N. J., died at his home at Yardley, Pa., on January 24, after a short illness. Mr. Kennedy was born at Pittsburgh, Pa., in 1876, and attended the Shadyside Academy of that city. He graduated from Princeton University with the degree of Civil Engineer in 1898, and thereafter occupied positions successively with the Pennsylvania Railroad at Altoona, the United States Steel Corporation, at one of the Ohio subsidiaries, and the Dravo-Doyle Company, Pittsburgh. In 1908 he became general manager of the De Laval Steam Turbine Company at Trenton, and in 1916 was elected vice-president. He was a director of that company and also president and director of the American Bauer-Wach Corporation, with offices in New York. Other connections included membership in the executive committee of the Machinery Builders Society, the Society of Naval Architects and Marine Engineers, the Trenton Club, and the Trenton Country Club. He was vice-president of the Wilbur Trust Company, and a director of the First Mechanics National Bank, Trenton, N. J.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 14, 1934—The Government Printing Office has announced the following paper awards.

The Aetna Paper Company has been awarded the contract for furnishing the Printing Office with 71,750 pounds (500,000 sheets) of 32x42, 143½ lbs., white sulphite bond paper at 5.35c per pound. The R. P. Andrews Paper Company will furnish 58,200 pounds (300,000 sheets) of 50 per cent rag, 21x32½ white index and 10,000 pounds (55,000 sheets) same 22½x28½ at 13.96c per pound and the same firm will also furnish 3,000 pounds (26,000 sheets) of 21x32, 115 lbs., 75 per cent rag blue ledger paper and 4,000 pounds (25,000 sheets) of 21x32½ 75 per cent rag bluff ledger paper at 21.75c per pound. The Cauthorne Paper Company will furnish 46,000 pounds (400,000 sheets) of 32x42, 115 lbs., white sulphite writing paper and 20,000 pounds (50 rolls) of the same in 21" rolls, at 5.33c and 4.99c per pound and also 10,000 pounds (87,000 sheets) of 32x42, 115 lbs., No. 40 salmon sulphite writing paper at 5.82c per pound. Bids for all of these items were received on February 2.

The R. P. Andrews Paper Company, will furnish 62,100 pounds (560,000 sheets) of salmon, blue, buff and yelow, 25 per cent rag bond paper, various sizes at 12.54c per pound. The Cauthorne Paper Company will furnish 14,400 pounds (200,000 sheets) of 21x32 pink sulphite writing paper at 5.82c per pound and 40,000 pounds, (625,000 sheets) of 22x34 salmon sulphite writing paper at 5.82c per pound. The Butler Paper Corporation will furnish 50,000 pounds (75 tolls of white sulphite writing paper in 32" rolls at 4.75c per pound. The Whitaker Paper Company will furnish 12,800 pounds (40,000 sheets) of 24x36" high finish red sulphite paper at 5.75c per pound. Bids for all of these items were received on January 31.

The Cauthorne Paper Company will furnish 64,575 pounds (450,000 sheets) of blue and yellow writing paper, 32x42 at 5.82c per pound and 6,000 pounds (16 rolls) of salmon sulphite writing paper in 24½ and 26" rolls at 6.44c per pound, bids for which were received on January 26.

The R. P. Andrews Paper Company will furnish 50,000 sheets of 17x22, 40 lbs., white gummed paper at $4.53 per M sheets, bids for which were received on January 24.

Indianapolis Market Steady

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., February 13—Steadiness is a good one word description of the local paper market. There appears to have been no perceptible increase in demand during the last week, but gains already made, both in demand and price were well held all along the line. In checking over the first month of the new year, the jobbers find they did more business than the year before, in fact for three years before, in most instances. If the same proportions can be maintained each month of the year, business will not have been so bad.

January business in ground wood papers, which long have been in the doldrums, was more better than in some other lines. This applies in newsprints, the volume is not nearly what it should be, but there is a very gradual expansion noticeable, particularly in the industrial centers where money is a trifle more plentiful and the local advertisers are beginning to try for some of it. Kraft showed some improvement during the last month and jobbers are of the belief that these items are out of the red as stock items.

One of the chief items of interest is the improvement in credit conditions, which for a long time past have been none too good. The cash-on-delivery policy that has been voluntary on the part of some customers and enforced on others, is likely to continue for a long time yet to come, but old bills are being paid up and more and more customers are taking discounts than for some time. However, the paper credit managers are relaxing none of their vigil.

Waxed papers and glassines are moving nicely, particularly the former. Most of the product is going to the bakeries and the Indiana factories are working virtually to capacity.

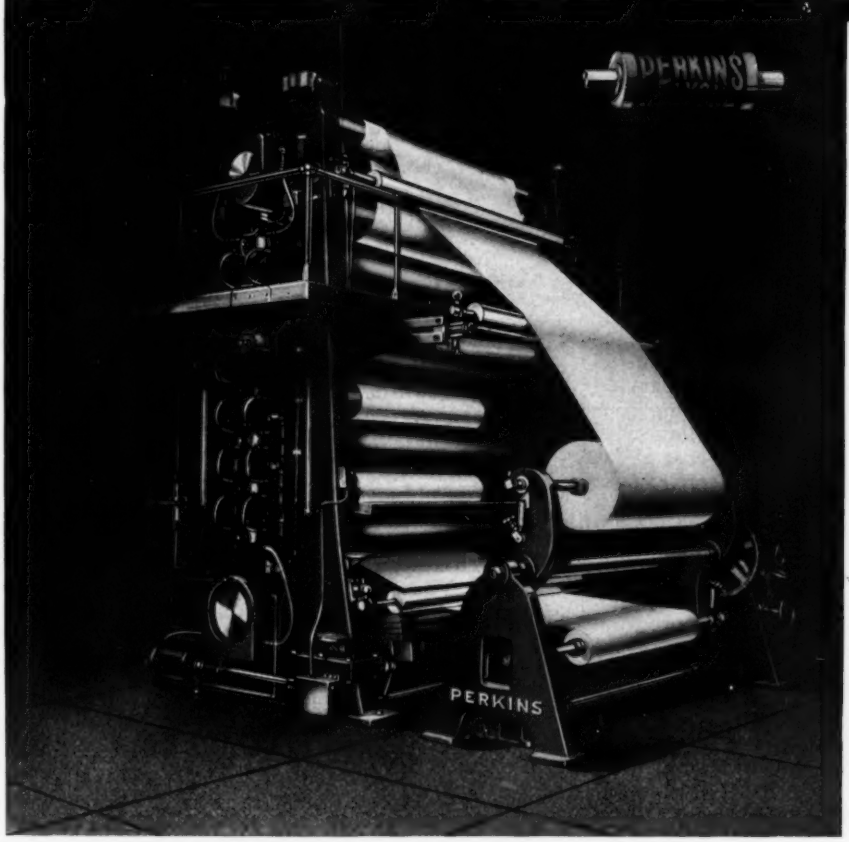
Paper stock men continue to do more business than last year. Demand for some of the better grades is improving considerably and stocks in local warehouses are low in these much wanted items, principal of which is white ledger stock. Kraft stock also seems to be wanted, but on the lower grades, mill demand is not so good.

New Campbell Box and Tag Co.

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., February 13, 1934—Officials of the Campbell Paper Box Company of South Bend, Ind., have filed papers with the Indiana secretary of state changing its name to the Campbell Box and Tag Company. The company will begin the production of a large line of tags in addition to its other line.

PERKINS



Cotton Rolls
Paper Rolls
Embossing Rolls
Chilled Iron Rolls
Granite Press Rolls
Glassine Supercalenders
Web Supercalenders
Friction Calenders
Embossing Calenders
Sheet Calenders
Platers
Mullen Paper Testers
Tensile Testers
Ventilating Fans
Rag Cutters
Stock Cutters
Paper Dampeners
Bleach Ejectors

There Is No Substitute for Perkins Quality

PERKINS Calenders are engineered to meet precisely the manufacturing requirements of the mill in which they are to be installed.

Extreme ruggedness to insure long, uninterrupted service is always an important consideration.

The extra weight, with perfectly balanced construction, is one of the reasons why Perkins Calenders can be operated profitably at speeds beyond present practice.

B. F. Perkins & Son, Inc., Holyoke, Mass.

ENGINEERS AND MANUFACTURERS

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Lockland, Ohio—The Philip Carey Manufacturing Company, Cincinnati, Ohio, is considering rebuilding of storage and distributing unit at mill at Lockland, recently damaged by fire, with loss reported over $50,000.

Ampthill, Va.—The duPont Rayon Company, Ampthill, near Richmond, Va., manufacturer of cellulose rayon products, his plans under way for an expansion and improvement program at local mill, including construction of several new buildings and installation of equipment. Entire program is estimated to cost about $5,000,000, with machinery, and will be carried out over a period of months. Work is scheduled to begin as soon as plans for buildings are completed. Company is affiliated with the duPont Cellophane Company, manufacturer of transparent wrapping materials, which operates a large plant on neighboring site at Ampthill, and it is understood that part of development program will be given over to this branch. Headquarters are at 350 Fifth avenue, New York, N. Y. Willis Shackelford is plant manager of duPont Rayon Company at Ampthill. Last noted company is planning a new housing development at branch mill at Old Hickory, Tenn., comprising group of about 200 new homes for employees' service.

Baltimore, Md.—The Calvert Paper Company, 1601 Guilford avenue, recently organized with capital of $100,000, plans operation of local plant for the manufacture of paper boxes and containers. New company is headed by Allen Clark and Carroll T. Gardner.

Monroe, Mich.—The Consolidated Paper Company is running on an improved production schedule, giving employment to about 1700 persons in different departments of mill. This compares with a working quota of 1100 operatives at this time a year ago.

New York, N. Y.—Wilchick & Kline, recently organized, have leased space in the building at 200 Greene street, and will occupy at once for new plant for manufacture of paper boxes and containers.

Amcelle, Md.—The Celanese Corporation of America, Amcelle, near Cumberland, Md., manufacturer of cellulose rayon products, has begun superstructure for new addition to mill, recently noted in these columns, and will push construction to early completion. New unit will be three-story and basement, 112x425 feet, and will be supplemented by another two-story and basement structure, 112x136 feet, both to be used as additions to present Mill No. 3. General contract will be carried out by the Hughes-Foulkrod Company, Schaff Building, Philadelphia, Pa. Entire project is estimated to cost over $500,000, including machinery.

New York, N. Y.—The American Leader Paper Box Company, Inc., recently organized with capital of 60 shares of stock, no par value, to manufacture paper boxes and containers, will take over and succeed to the company of same name at 101 Wooster street.

St. Louis, Mo.—The Allied Factory Supplies, Inc., care of J. D. Slattery, Butler Building, St. Louis, representative, recently organized with capital of $75,000, plans operation of local factory for the manufacture of cardboard shoe boxes and kindred boxes and containers. Hugh J. Brown is one of the principal incorporators of new company.

Boston, Mass.—The Philip Carey Company, Lockland, Ohio, manufacturer of building and roofing papers, asbestos paper products, etc., has leased a floor building at 121 Beverly street, and will occupy for new local factory branch, storage and distribution.

New York, N. Y.—The Blake-Butler Paper Company; Inc., 225 Varick street, has arranged for increase in capital from 2300 shares of stock to 3000 shares of stock, of which shares to value of $150,000 will be preferred and 1500 shares, no par value, for general expansion.

Melrose, Mass.—Processed Papers, Inc., has been organized by Weldon B. Hersey, 29 Woodside road, Winchester, Mass., and associates, with capital of 1000 shares of stock, no par value, to operate a local plant for manufacture of special paper stocks. Mr. Hersey will be treasurer of new company; Bert C. Miller is president.

Toronto, Ont.—Globe Envelopes, Ltd., recently organized, has leased space in building at 360 Adelaide street west; totaling about 9200 square feet, and will occupy at once for new paper converting plant, for manufacture of commercial envelopes and kindred specialties. Irving C. Hall is president of new company, and J. D. Thomson, vice-president.

Iroquois Falls, Ont.—The Abitibi Power and Paper Company, Ltd., is arranging for increased operations at local mill and will soon start up two paper-making machines, making five out of a total of seven machine units in service. A number of employes will be reinstated at once, operating in 8-hour working shifts. The plant has been running three machines since last July. Improved orders make necessary the increased capacity.

Ottawa, Ont.—Bowater's Paper Mills, Ltd., London, England, manufacturer of newsprint, etc., has arranged for the organization of new Canadian subsidiary interest, to be known as Bowater's Canadian Paper Corporation, Ltd., with capital of 600,000 shares of stock, no par value. The new company will establish headquarters at early date at Montreal, Que., with branches in different Canadian cities. It is proposed to operate a newsprint mill in Canada, to be acquired by purchase.

Montreal, Que.—The Canadian International Paper Company, Ltd., Montreal, is planning large increase in pulpwood supply for its different newsprint mills, and

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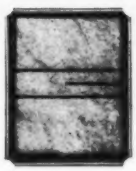

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will cut approximately 80,000,000 feet of logs in the Gatineau, Ont., district within the next few months, and approximately a like amount at its properties along the upper Ottawa River. This is more than five times the amount of pulpwood that was cut in the same districts last year.

New Companies, Etc.

Boston, Mass.—The Commercial Box Company, Inc., has been organized with capital of $3,300 and 30 shares of common stock, no par value, to manufacture paper boxes and containers. Max Goffer, 22 Brooks street, East Boston, is president.

New York, N. Y.—The Surplus Carton Corporation has been incorporated with capital of 200 shares of stock, no par value, to manufacture and deal in paper boxes and containers, cartons, etc. New company is represented by Emanuel Morganlander, 1450 Broadway, city.

Detroit, Mich.—The Koin-Bak Card Company, 2751 East Jefferson avenue, has been incorporated with capital of $25,000, to operate a local card and paper converting plant for patented card specialties, etc. Glenn D. Welcher, Birmingham, Mich., is principal incorporator.

Pawtucket, R. I.—The Frost Box Company, Inc., has been incorporated with capital of 500 shares of stock, no par value, to manufacture paper boxes and containers. The incorporators are Benjamin L. Thurston and Charles L. Hawes, 148 Colonial road, Providence, R. I.

New York, N. Y.—The N.R.A. Paper and Stationery Corporation, 98 Greenwich street, has arranged for change of company name to the Edison Paper & Stationery Corporation.

Complaint Against Crown Zellerbach

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 14, 1934—Brief telegraphic mention was made in last week's issue of the PAPER TRADE JOURNAL of the complaint issued by the Federal Trade Commission against the Crown Zellerbach Corporation. The official statement is as follows:

Crown Zellerbach Corporation, San Francisco, a large holding Company of the paper and paper products industry, in a formal complaint issued by the Federal Trade Commission, is charged with acquisition of capital stock in a competing company, in violation of Secton 7 of the Clayton Act. The company alleged to have been acquired is the Crown Willamette Paper Company, operating mills in Washington, Oregon and California. The case will be set for trial at an early date.

As a result of this acquisition, Crown Zellerbach now occupies a dominant position in the paper and paper products industry, particularly newsprint paper, controlling the manufacture and sale of about 80 per cent of the output of newsprint in the Pacific Coast States, according to the Commission's complaint. Also, as a result of the acquisition, competition has been substantially lessened in paper and paper products generally and the interstate sale of paper has been restrained, it is alleged.

This acquisition, according to the complaint, resulted from an agreement made March 30, 1928, between representatives of Zellerbach Paper Company, predecessor of Crown Zellerbach, and Crown Willamette Paper Company, Zellerbach Corporation agreed to increase its then authorized common stock from 1,200,000 shares to 2,000,000 shares, and its then outstanding common stock from 825,769 shares to one million shares by issuing a stock dividend and changing its name to Crown Zellerbach Corporation. The new corporation was then to issue one million shares of the theretofore unissued Crown Zellerbach common stock, share for share, in exchange for the one million shares outstanding common stock of Crown Willamette. Crown Zellerbach was to create a ten-year voting trust to vote common stock of Crown Zellerbach with powers and duties substantially the same as those possessed by a voting trust of Crown Willamette. Common stock of Zellerbach Corporation and common stock for trust certificates of Crown Willamette were to be exchanged for voting trust certificates of Crown Zellerbach Corporation so that when the transaction was completed, all common stock of Crown Zellerbach Corporation would be in the form of voting trust certificates of Crown Zellerbach Corporation under a voting trust, and all common stock of Crown Willamette Paper Company would be owned by Crown Zellerbach Corporation.

The agreement was made effective and Crown Zellerbach later acquired all capital stock of Olympic Paper and Power Company, Washington Pulp and Paper Corporation, National Paper Products Company, Sanitary Products Corporation and Pacific Mills, Ltd., and other subsidiaries formerly owned or controlled by Zellerbach Corporation and Crown Willamette Paper Company, respectively.

Crown Zellerbach Corporation was organized as a holding company in August, 1928, with authorized capitalization of 1,200,000 shares of common stock, no par value. The outstanding common stock had a book value of more than $20,000,000. Outstanding preferred stock had a book value of more than $4,500,000. Total assets of the company as of April 30, 1928, were, according to its books of account, upward of $34,000,000.

The Crown Zellerbach Corporation, as of August 1, 1928, owned a majority of the voting capital stock of the Zellerbach Paper Company, largest distributor of paper and paper products at wholesale and retail in California, Oregon, Washington, Nevada, Utah and Arizona, which in turn, owned a majority of the voting capital stock of National Paper Products Company and Sanitary Paper Products Corporation. Crown Zellerbach, the holding Company, also owned a majority of the capital voting stock in Olympic Paper and Power Company, a holding company which, in turn, owned all capital stock of Washington Pulp and Paper Corporation which manufactured newsprint paper exclusively.

All of these companies were in substantial competition with Crown Willamette Company, according to the Commission's complaint.

Boston Paper Market Conditions

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., February 12, 1934—Business in general has not been so active in the paper trade as the previous week, estimating from reports received. With some dealers in fine paper business has been "pretty good," but with some others it has become rather quiet, with the feeling that buyers are holding off until after the meeting in New York. While business has been fair with some in wrapping paper, in this division too there seems to have been an easing off on the part of customers until after the New York meeting. Box board business has been fair. In certain quarters of the paper stock market and in certain grades, business was quiet, although January was better than a year ago. In others it was very active. Mixed papers and old newspapers moved well. No. 1 books, heavy, white blank news, and No. 1 kraft, advanced in price owing to the demand for these commodities.

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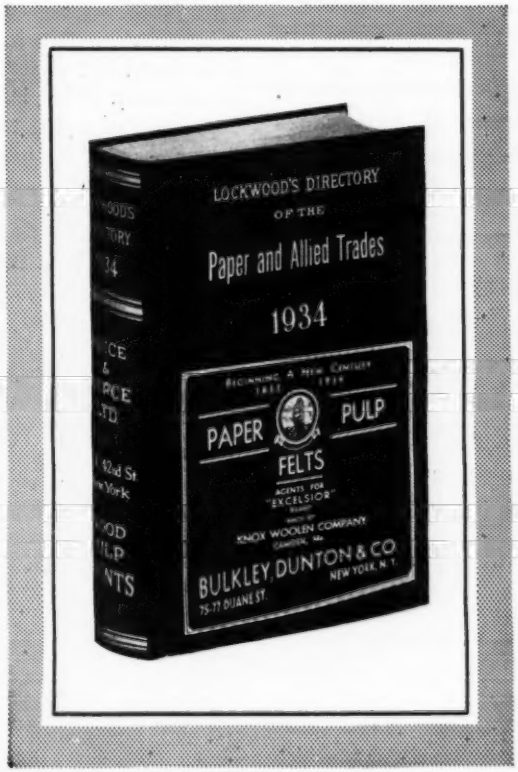

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COMING EVENTS

American Paper and Pulp Association, Fifty-Seventh Annual Convention Waldorf-Astoria Hotel, New York, February 19-23. Annual Meeting, Friday, February 23.

Technical Association of the Pulp and Paper Industry, Convention, Waldorf-Astoria Hotel, New York, February 19-22. Luncheon, Thursday, February 22.

Salesmen's Association of the Paper Industry, Annual Meeting, Waldorf-Astoria Hotel, New York, Tuesday, February 20.

New York Association of Dealers in Paper Mill Supplies, Annual Banquet, Hotel Commodore, Wednesday, February 21.

National Paper Trade Association of the United States, Convention, Waldorf-Astoria Hotel, New York, February 19-21.

National Association of Manufacturers of Pulp and Paper Machinery and Equipment, Luncheon, Waldorf-Astoria Hotel, February 21.

THE BIBLIOGRAPHY FOR 1933

The Technical Association of the Pulp and Paper Industry is to be congratulated on the prompt appearance of the "Bibliography of Paper Making and United States Patents on Paper Making and Related Subjects, 1933", which reached many of the members on the morning of February 12, 1934. Some appreciation of the task involved in the preparation of this volume may be obtained from consideration of the following facts: It is a book of 169 pages (96 pages of bibliography proper, 61 pages of patents and 12 pages of author index); all of the articles in the last issue for December, 1933, of the paper making magazines, not only for the United States and Canada, but also for England, France, Germany, Norway, etc., are included in the proper place in the bibliography; the United States Patents from the December 26th issue of the *Patent Gazette* are found under their respective classes; and further it must be realized that the book proper had to be in page proof before the Author Index, containing some 1,800 names, could be prepared for printing.

The Committee on Abstracts and Bibliography of the Association, which is charged with the responsibility of preparing this book, are to be complimented on the organization of their work which makes possible the placing of this bibliography in the hands of the Association's members so early in the year.

Equally as important, if not more so, is the fact that, as far as we are aware, the pulp and paper industry is the only industry which renders this service to their members. While many other industries, such as ceramics, leather, rubber, sugar, etc., have an abstract journal or an abstract section in their technical journals (as does the Technical Association in its Technical Section of the Paper Trade Journal), no other industry assembles this material at the end of the year in classified form, which thus brings together in one place all the material on any one subject. The time necessary to follow the literature, say, of the sulphite process, is greatly decreased; from the care which is taken in searching the current magazines for material to be included in the bibliography, it may be safely said that no important article is omitted. Anyone who has had the experience of trying to collect the literature on any particular phase of the industry can appreciate what it means to have at hand a complete, classified list of references, even for one year.

Another valuable feature of the bibliography is the references to abstracts of the articles listed, as far as they have appeared, such references being given to the Technical Section of the Paper Trade Journal, Chemical Abstracts and British Chemical Abstracts.

The Technical Association, with the cooperation of the Lockwood Trade Journal Company, rendered a signal service to the pulp and paper industry in 1928 in the publication of West's Bibliography of Paper Making, 1900-1928, a book of about 1,000 pages of classified titles on paper making. This volume, it is expected, will be supplemented in 1936 by one containing the titles for the years 1928 to 1935, thus making available in two volumes the literature of 35 years, during which time the most important advances have been made by the industry. Work on this supplement is now in progress by the Chairman of the Committee on Abstracts and Bibliography, Clarence J. West.

While this bibliography, like two earlier numbers (1931 and 1932) is mailed free to members, as a part of the service which the Association is offering the industry, additional copies are available to non-members at $2.00 per copy. These should be ordered from the office of the Technical Association, 122 West 42nd street, New York City.

CODE AUTHORITY CONFERENCE

One year and one day after his inauguration, President Roosevelt will address what probably will be the greatest gathering of leaders of industry and trade in the country's history—the conference of Code Authorities and trade association committees scheduled to be held in Washington March 5 to March 8.

Invitations to participate in the conference to determine practical measures to meet problems which have arisen in actual code operation, were forwarded last week by National Recovery Administrator Hugh S. Johnson to nearly

7,000 members of the authorities created under approved codes and also to the trade association code committees representing those industries whose proposed codes, having been considered in public hearings, are now awaiting formal approval.

A total of 278 codes covering approximately 90 per cent of all industry and trade have been approved to date and another 353, most of them for relatively small industries, on which public hearings have been held, are in course of preparation for final approval.

In his call for the conference, the opening sessions of which are to be held in Constitution Hall, General Johnson outlined the major purposes to include "the consideration in public sessions of the possibilities of increasing employment; protections against destructive competition and against excessive prices and monopolistic tendencies; the elimination of inequalities and inconsistences in codes; the position of small enterprises; and the vast problem of code administration and the organization of industry for self-government."

In his invitations to the conference, General Johnson not only requested the submission before February 20 of "such questions, or suggestions, which, in your judgment, may improve the policy or procedure of the National Recovery Administration" but he also urged participants to come prepared to discuss details of the effect of the codes on their particular industries.

Accurate information is desired, the General pointed out, concerning the effects of codes on operations, including employment, in each industry; on general price trends of products in each industry; and on unethical trade practices, as well as the effects of code provisions, if any, restricting production through limitation of machine hours or plant facilities, and the effect of codes on smaller concerns in each of the industries.

In addition, the invitation solicits suggestions to be presented during the conference for the modification, elimination or addition of specific code provisions; proposals for the elimination of overlapping of codes and for the financing of industry code administration.

Following the opening session on March 5 to be addressed by the President and General Johnson, the general conference will be divided into several public group meetings to be followed by group conferences of Code Authorities and Code Committees with the Administration and a final general conference of selected delegates of each Code Authority and Committee with the Administrator.

New Asbestos Paper Plant for Bronx

The J. Ozurvich Company is installing machinery for the manufacture of asbestos, woolfelt and metallic paper in their new plant located at 2128 Westchester avenue, Bronx, N. Y. The project is estimated to cost $35,000.

A two-cylinder machine bought through the Gibbs-Brower Company, Inc., paper and pulp mill brokers, 401 Broadway, New York, N. Y., from the Stark Paper Company, of North Bennington, Vt., and the necessary equipment for the manufacture of the above products, is being installed at the plant.

L. A. Barry and Son, of 92 Smith street, Newark, N. J., are the engineers for this project.

Machinery Men to Hold Luncheon

S. L. Willson, president of the American Paper and Pulp Association and John W. O'Leary, president of the Machinery and Allied Products Institute of Chicago, will address the luncheon meeting of the National Association of Manufacturers of Pulp and Paper Machinery and Equipment which will be held on February 21 at the Waldorf-Astoria Hotel in New York City.

Mr. Willson will discuss the mutual problems facing the paper manufacturers and builders of pulp and paper mill machinery. Mr. O'Leary, as president of the Machinery Institute will discuss the importance of the machinery business in the program of national recovery under the NRA.

According to Phillips Dennett, president of the National Association of Manufacturers of Pulp and Paper Machinery and Equipment, this organization includes the membership of machinery companies manufacturing machinery and equipment used in the paper industry exclusive of paper machines and beaters and jordans, both of which groups are represented by separate associations.

"In view of the fact," Mr. Dennett says, "that no luncheons or banquets are scheduled by the American Paper and Pulp Association and also because of the importance of Mr. Willson's address we are inviting anyone connected with the paper industry and with the allied supply and equipment companies to attend this luncheon if they care to do so. The tickets for the luncheon are $3.00 and can be obtained by addressing John Cornell, care of the National Association of Manufacturers of Paper and Pulp Machinery and Equipment, Room 1050, 1440 Broadway, New York City. We should appreciate having reservations not later than Monday, February 19, so that the necessary arrangements can be made."

May Erect Pulp Mill on Coast

Eastern Canadian interests holding extensive timber limits in the Kitsumkalum area and also on the Naas River in British Columbia, are in communication with F. L. Buckley, Vancouver and Prince Rupert, regarding the proposed establishment of a pulp mill at Prince Rupert. According to Olier Besner, Prince Rupert capitalist, the prospects for the establishment of a pulp mill in the northern British Columbia town are brighter now than for several years. The interests now negotiating are said to have originally intended to locate such a plant in the interior, probably along the Skeena River, but they have since decided that Prince Rupert offers a more advantageous location, inasmuch as it offers an opportunity for developing the water-borne trade economically by means of a tidewater mill.

H. B. Newton Heads Newton Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., February 13, 1934—The Newton Paper Company at its recent annual meeting in this city, elected Herbert B. Newton to succeed Henry L. Russell as president. Mr. Newton will also retain his office as treasurer previously held by him. James N. Logan was re-elected vice president and William W. Newton succeeds Mr. Newton as assistant treasurer. The board of directors is comprised of these officers with the addition of James B. Ramage.

The company reports an improvement in business for the past month. Its new line of beer mats is being used exclusively at the large cafe operated in connection with the first International Beer and Wine Show in New York, February 19 to 24 inclusive.

A drawing made at one of our plants by D. Douglass

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Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Suggested Reforms in the Patent Office*

At the request of Loyd H. Sutton, chairman of the Committee on Patent Matters[1] appointed by the Hon. Daniel C. Roper to study conditions in the Patent Office and to make recommendations with respect to securing greater efficiency, better service and improved practice, the Patents Committee of the Technical Association of the Pulp and Paper Industry has made a study of the situation with a view toward offering its suggestions for improvement. Its findings which have been approved by the Executive Committee of TAPPI are herewith presented. They are being presented in the form of informal suggestions rather than that of a formal report and the committee feels certain that they will be received in the kindly cooperative spirit in which they are being made.

"Due to the lack of time for adequately reviewing the patent situation in all its phases and aspects, it has been deemed advisable to consider at this time only the ex parte prosecution of applications in the Patent Office.

"The chief defects in Patent Office procedure appear to be the hasty and rather superficial examinations of patent applications, the incomplete searches of the prior art, particularly in the early stages of the prosecution, the piece-meal citation of references and grounds of rejection, and finally the lack of uniformity of practice among the various divisions of the Patent Office.

Contributing Factors

"Among the contributing factors are the following:

(1) Inadequate examining force.

(2) Inadequate system for classifying and indexing patents and technical publications.

(3) The fact that a large proportion of the examiners are insufficiently acquainted with the practical aspects of the arts in which they are presumed to be experts.

(4) Undue emphasis on the quantity of the examiner's work and not enough on its quality. During the last few years a number of supervisors have been inspecting the work of the individual examiners in an effort to raise its standard of quality. However, the periodic drives by the former Commissioner to achieve large and record reductions in the number of cases awaiting action have practically nullified the work of the supervisors.

(5) Undue emphasis on technicalities and matters of form. As an illustration may be mentioned the large numbers of needless requirements of division.

"The following changes are suggested:

(1) That the number of examiners be increased, at least to the extent of filling all existing vacancies.

(2) That the Classification Division be adequately manned and financed to furnish complete and reliable records for Patent Office use. The work of the Classification Division should be extended to include:

(a) The classification of domestic patents.
(b) The classification of foreign patents.
(c) The classification and indexing of technical literature.

(3) That the examiners be encouraged to join the technical associations relating to their respective arts and to attend technical meetings as well as visit industrial plants at periodic intervals.

(4) That lectures on technical subjects by experts be held periodically in the Patent Office and the examiners required to attend. Such lectures have been given in the past.

(5) That the 'mad scramble' to reduce the number of cases awaiting action and to reach certain dates be stopped.

(6) That the examiners be directed to devote as much time as may be necessary for a complete examination and search of the prior art.

(7) That the practice relating to requirements of division be liberalized.

(8) That the examiner in his action be required to state the field of search and whether or not foreign patents and technical literature were searched.

(9) That examiners' symposia be held at frequent intervals to discuss Patent Office practice as affected by recent decisions.

(10) That the supervisory examiners be required to watch for and report to the Commissioner differences in practice among the various divisions, so that the Commissioner can take the proper steps to render Patent Office practice more uniform.

(11) That applications pending more than three years be made 'special.'

(12) That notice of the filing of reissue applications be published in the Official Gazette.

(13) That classified abridgment of all United States patents be published."

* This is Bulletin No. 24 contributed by the Patents Committee of the Technical Association of the Pulp and Paper Industry, Charles W. Rivise, chairman, Philadelphia, Pa.

1 Bulletin No. 22, "The 'New Deal' and the Patent Office," Paper Trade Journal, November 2, 1933.

Penetration of Western Hemlock Chips by Calcium Bisulphite Liquor*

By C. E. Hrubesky[1] and G. H. Chidester[2]

Abstract

Bomb-scale penetrations of 5/8-inch chips of western hemlock (Tsuga heterophylla) heartwood and sapwood, both in freshly cut and oven-dry conditions, were made at constant temperatures of 110, 115, and 120 deg. C. to determine the rate of penetration of the calcium bisulphite liquor and the time required to burn the chips. Three cooking acids containing 3, 6, and 8 per cent total and 0.8, 1.20, and 1.20 per cent combined sulphur dioxide, respectively, were used for each of the conditions stated. The time required for penetration of moist heartwood chips with each of the acids during a uniform rate of temperature rise from 30 to 110 deg. C. was also determined.

Penetration was found to be accelerated by an increase in temperature and an increase in the excess sulphur dioxide content of the liquor. It was more rapid in the sapwood than in the heartwood and was, to a very silght extent, more rapid in oven-dry than in moist woods. The temperature at which the chips were burned varied with the acid concentration and moisture content. At 110 deg. C. the only burning occurred in moist sapwood chips when treated with the 8 per cent acid.

Objects and Limits of the Study

The work described herein was undertaken as the first part of a study of the pulping of western hemlock which is now in progress at the Forest Products Laboratory. The purpose of the experiments was to determine the time required for penetration of the wood chips by cooking acid and the conditions under which the chips are burned during the early stage of the digestion.

Penetration is the first objective to be considered in a digestion. If the penetration is not complete before a critical temperature of approximately 110 deg. C. is exceeded, hard brown centers appear in the chips; the lignin is altered, and further action of the cooking acid is resisted. Since it is important to avoid this "burning" effect and also to increase the temperature to the pulping range as quickly as possible, a knowledge of the exact conditions required for penetration of the wood is important.

Several investigators have found that the rate of penetration of the base into wood is so rapid that no special precautions are necessary to insure its completion. Thus Richter (*1*) concludes that less than one-half hour is necessary for the complete penetration of 7/8-inch chips, and Hansen and Hazelquist (*2*) conclude from experiments on western hemlock blocks that at temperatures above 35 deg. C. penetration is complete in the same short time.

Contrasted with these results are those of Swanson (*3*) and Miller, (*4*), who found that about one hour is required for penetrating spruce chips 5/8-inch in length, but concluded that because of the nonuniformity of the chips and temperature distribution it is preferable to allow at least 1½ hours for penetration of dry chips and 2 hours for wet chips; further, that in the case of eastern hemlock the penetration period should not be less than 2 hours and should preferably continue for 2½ to 3 hours.

Alongside the simple objectives of the present study, the general problem of wood penetration by liquids appears under a much more complex aspect. Penetration is undoubtedly dependent on a number of factors. Miller and Swanson *(5)* as well as Johnsen*(6)* and others *(2), (7), (8)* find that an increase in excess sulphur dioxide in the cooking acid accelerates penetration of the base. In consideration of this fact, Cable (*9*) increased the pressure of digestion with free sulphur dioxide to increase the rate of penetration and to decrease the cooking time. Johnston and Maass *(10)* conclude that penetration is dependent upon the species of wood, is greater in sapwood than in heartwood, and is faster in the axial than in the radial or tangential directions. The phenomena of air in the chips retarding penetration and of partial cooking action of the liquor at about 90 deg. C. opening up the wood to accelerate penetration are pointed out by Saunderson and others. *(11), 12).*

Other indications of the factors affecting the penetration of wood are afforded by the results of treating wood with preservatives *(13)*. Among the factors found important in such work are the temperature and viscosity of the impregnating solution. Temperature and viscosity are of course interrelated. At higher temperatures, variations in pressure are considered of less importance than variations in temperature. The concentration of the impregnating liquid, its molecular weight, and the "solvent" effect of the liquid upon the wood may also be important considerations.

Although the penetration of the wood perpendicular to the direction of the grain is much slower than in the grain direction, in treating wood with preservatives, a large part of the penetration must be in the perpendicular direction because of the length of the timbers treated. In the case of small chips, however, the liquid probably reaches the centers chiefly through the ends of the chips.

One of the most important factors in impregnation is the structure of the wood itself. Essentially, the cells to be filled may be considered as a system of capillary tubes connected by numerous orifices of smaller diameter than the cell cavities. Although in many instances the effects of the capillary forces upon the rate of penetration are probably small in comparison with pressures applied externally, in instances where the liquid used does not wet the wood, extremely high pressure are required to force it through the small openings in the cell walls.(*14*).

When chips are penetrated with a solution of $Ca(HSO_3)_2$ in H_2SO_3, the action is somewhat different from what it is in the usual case of impregnating wood. The sulphur dioxide penetrates the chips first, quite rapidly, and is followed by the bisulphite solution into the cell cavity, probably through the cell wall or bordered pits.

While it is believed that a study of all the above and any other variables affecting the penetration of wood

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chips under a wide range of conditions would be most desirable, the object of the present experiments was to give some indication of the optimum conditions within a rather narrow range, approximating those existing in commercial practice. Because of the complicated structure of the wood and the limited data available in regard to it, theoretical consideration of the mechanism of penetrating chips was not attempted.

Method

Both freshly cut and oven-dry chips of heartwood and of sapwood were digested at constant temperatures ranging from 110 to 120 deg. C. for many cooking periods varying by 15 minutes, with lime-base cooking acids of different strength. After digestions at constant temperature, further trials were made to determine the time required for penetration under uniform rates of increase in temperature to 110 deg. C. The trials under uniform temperature rise were carried out both with indirect heat in a sealed bomb and with direct steam heat in a semi-commercial digester.

In all cases the degree of penetration of the bisulphite was determined at the end of the test period by cutting chips in the grain direction through the middle and placing bromphenyl blue solution on the cut surface. The presence of excess sulphur dioxide produced a yellow color over the entire cut surface of the moist chip. Upon drying, however, the excess sulphur dioxide evaporated, and a blue color indicated the presence of calcium bisulphite and therefore the extent of its penetration.

In the case of constant-temperature digestions at 110 deg. C., this indication of the penetration of calcium bisulphite was given a check test by rapidly increasing the temperature of a supplementary charge to 145 deg. C. after the bomb had been kept at 110 deg. C. for the three cooking periods used. In this case, burning of the centers of the chips was taken as an indication of incomplete penetration. When the time that the bomb was held at 110 deg. was much less than that indicated for complete penetration, the centers of the chips were burned; when the time was the same as that indicated for complete penetration, no burning occurred. "Burning" of the chips was determined by visual inspection of the freshly cut surfaces, the burned section being characterized by a reddish-brown discoloration.

Materials

Wood

The wood samples used in the experiments were obtained from a log of western hemlock *(Tsuga heterophylla)*. The heartwood and sapwood contained, respectively, 28.3 per cent and 53.9 per cent moisture. The chips were stored in tightly covered aluminum cans, from which those 5/8 of an inch in length were picked.

Cooking Acid

The cooking acids were prepared in the usual way by introducing sulphur dioxide into a suspension of the required amount of hydrated lime. Acids of three different concentrations were used, one containing 6.0 per cent total and 1.2 per cent combined sulphur dioxide to correspond to the initial strength of an average commercial acid; a second containing 8.0 per cent total and 1.2 per cent combined sulphur dioxide to determine the effect of a stronger acid on penetration; and a third containing 3.0 per cent total and 0.8 per cent combined sulphur dioxide to correspond to a commercial cooking acid at 110 deg. C. after dilution by steam.

Digestion Apparatus

The small-scale digestions were carried out in a 350-cc. Parr calorimetric bomb of illium alloy fitted with a pressure gauge and hand-operated relief valve. The temperature of the bomb contents was controlled by immersion of the closed bomb in an electrically heated oil bath. In addition, three digestions were made in a semi-commercial digester of 13 cubic feet capacity.

Experimental Procedure

For the constant-temperature bomb digestions, a quantity of chips equivalent to 25 grams when oven-dry and 250 cc. of cooking acid constituted the charge. A watch-glass was placed over the chips to keep them immersed. In cooking with the acids containing 3 and 6 per cent total sulphur dioxide, the bomb was connected through the relief valve to an air-pressure line and the contents were subjected to an initial pressure of 14 to 60 pounds per square inch, so that a maximum pressure of 75 pounds per square inch would be attained before the end of the desired period of digestion. With the 8 per cent acid this procedure was unnecessary, since the pressure reached 75 pounds in a short time and had to be relieved to keep it at that figure. The bomb was then suspended in the oil bath, which had been previously heated 4 deg. C. above the desired temperature. Four minutes were allowed for the contents to come to equilibrium with the temperature of the bath. At this point the thermo-regulator was adjusted to maintain the desired temperature throughout the digestion.

After the predetermined time of cooking, the bomb was removed from the oil bath and cooled quickly under running cold water, the contents were drained, and the chips were washed in a Büchner funnel. The chips were then spread out on paper for several minutes for surface drying, after which they were examined for penetration in the manner described.

In the bomb digestions under uniformly rising temperature, the bomb was initially at room temperature, and no external pressure was applied, for reasons referred to later. In the semi-commercial digestions, temperatures were increased uniformly to 110 degrees during different cooking periods.

Discussion of Results

Effect of Penetration on the Indicator

During the initial periods of penetration, especially at temperatures below 100 deg. C., bromphenyl blue dye will indicate complete penetration of the base followed by a period of incomplete penetration and then complete penetration again. If, for example, 5/8-inch chips are treated at 60 deg. C. with acid containing 6 per cent total and 1.20 per cent combined sulphur dioxide, the dye will indicate complete penetration in less than one-half hour treating time. In one-half hour to six hours treatment the chips show incomplete penetration, after which time complete penetration is again indicated. With an increase in temperature the period of preliminary indication of penetration decreases.

That this preliminary indication of penetration is not the factor necessary for pulping is shown by the fact that if the chips are brought rapidly to 145 deg. C. after much less than the time indicated for complete penetration at a given temperature, the centers are burned.

Perhaps the reason for the indicator showing penetration during the first half hour may be that the sulphur dioxide that penetrates comparatively rapidly combines with the wood substances and is present in an insufficient quantity to cause an acid reaction with the dye; hence it may be that moisture alone, and not the presence of bisulphite, accounts for the blue coloration.

TABLE I

TIME REQUIRED FOR PENETRATION AND BURNING OF CHIPS BY COOKING ACID AT DIFFERENT CONSTANT TEMPERATURES AND A GAGE PRESSURE OF 75 POUNDS PER SQUARE INCH

		Time required to penetrate chips				Time required to burn chips			
		Composition of acid per cent SO_2				Composition of acid per cent SO_2			
Wood	Temperature, Deg. C.	Total Combined Excess	3.0 .8 1.4	6.0 1.2 3.6	8.0 1.2 5.6	Total Combined Excess	3.0 .8 1.4	6.0 1.2 3.6	8.0 1.2 5.6
			Hours	Hours	Hours		Hours	Hours	Hours
Moist heart	110		1.75	1.75	1.50		[1]	...	...
O.D. heart			1.75	1.75	1.25		...	...	...
Moist sap			1.50	1.25	1.25		...	...	1.25
O.D. sap			1.25	1.25	1.25		...	...	...
Moist heart	115		1.75	1.50	1.25		...	...	1.25
O.D. heart			1.50	1.50	1.25		...	...	1.00
Moist sap			1.25	1.00	1.00		1.00	0.75	.50
O.D. sap			1.25	1.00	.50		...	...	.25
Moist heart	120		1.50	1.25	1.25		1.00	...	1.00
O.D. heart			1.50	1.00	1.00		1.25	...	.75
Moist sap			1.00	1.00	.75		.50	.50	.25
O.D. sap			1.00	.75	.50		.75	.75	.25

[1] . . . Dots indicate that chips did not burn.

Effect of Temperature on Penetration and Burning

The effect of temperature on the time required for penetration and also for burning the chips is shown in Table I and Fig. 1. With an increase in temperature, the time required for penetration tended to decrease; as a general rule the decrease amounted to about a quarter hour for each 5-degree rise in temperature. The critical temperature, above which burning of the centers of the chips occurred before penetration, varied between 110 and 120 deg C. according to conditions. At 110 deg. C. the only instance of burning occured in the sapwood when treated with the strongest acid. At 115 deg. C. all samples were burned before penetration with the strongest acid, but with the weaker acids only the moist sapwood was burned. At 120 deg. C. all samples were burned before penetration was complete, except the heartwood with the 6 per cent acid.

From these data it may be concluded that some latitude in rate of temperature rise is permissible in passing through the critical temperature range on a cooking schedule. It is seen that a rather definite length of time, varying with the conditions, is required to burn unpenetrated chips, when the critical temperature is exceeded. Chips very nearly penetrated may be completely penetrated before being burned when the rate of temperature rise is decreased after reaching the critical temperature.

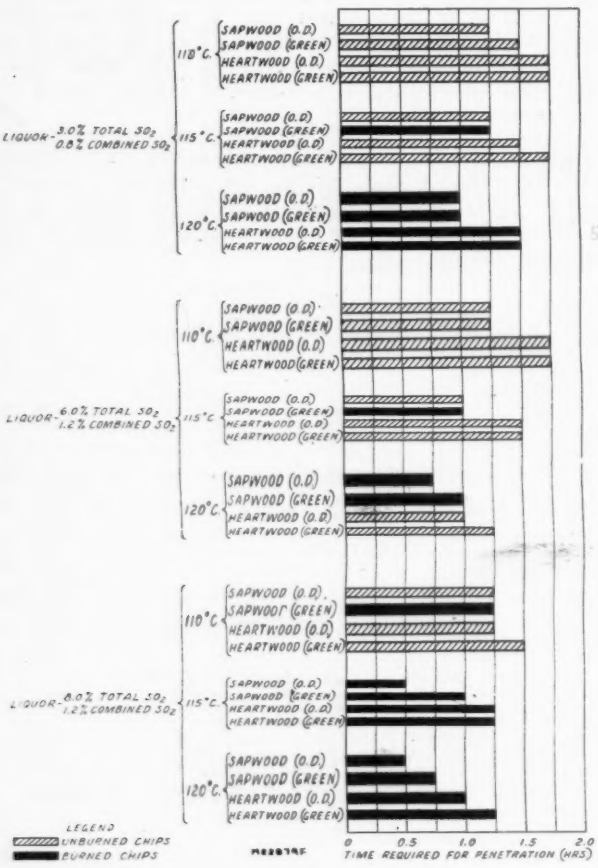

Fig. 1

Time required for penetration of western hemlock chips by $Ca(HSO_3)_2$ at different temperatures.

Negative Effect of Pressure on Penetration

With the acid containing 3 per cent total sulphur dioxide the maximum gauge pressure obtainable without subjecting the bomb to an additional air pressure was 45, 50, and 55 pounds per square inch at 110, 115, and 120 deg. C., respectively. With the 6 per cent acid the corresponding pressures were 60, 65 and 75 pounds per square inch. The rate of penetration of the chips at all these pressures was later found to be substantially the same as at the standard 75-pound pressure reached by external means. Hence, in the further experiments conducted under rising temperatures, no external pressure was applied.

Effect of Acid Concentration on Penetration and Burning

The result in Table 1 indicate that an increase of 2 per cent excess sulphur dioxide decreased the time required for penetration by approximately the same amount as a 5-degree rise in the temperature, or about fifteen minutes.

An increase in the excess of sulphur dioxide tended to decrease the time necessary to burn the chips. With acid containing 6.6 per cent excess sulphur dioxide the moist sapwood burned in 1¼ hours at 101 deg. C., and all of the chips burned at 115 and 120 deg. C. before penetration was complete. With acid containing 3.6 per cent excess sulphur dioxide, only the moist sapwood at 115 deg. C. and the moist and oven-dry sapwood at 120 deg. C. burned before penetration was complete. When the acid was reduced to 1.4 per cent excess sulphur dioxide again only the moist sapwood burned at 115 degrees. However, at 120 deg. C. both heartwood and sapwood were burned. This burning of the heartwood at 120 degrees with the weakest acid can probably be explained by the smaller amount of "combined" sulphur dioxide.

Effect of Moisture on Penetration and Burning

The moisture content of the chips had a rather small effect on the time required for penetration over the range tested. At 120 deg. C. and with the two strong acids the oven-dry chips were penetrated in 15 minutes less time than the moist chips. At the other temperatures, there were only a few scattered instances where the dry wood was penetrated faster.

The influence of moisture on the tendency of chips to burn was evident in the sapwood, the moist-chips of which burned at a lower temperature than the oven-dried chips with each of the three acids. This effect is rather difficult to explain. Although the effect of moisture in the chips in slowing up penetration by the bisulphite was small, it might have been sufficient to account for the quicker burning of the moist wood, particularly with the strong acid.

PENETRATION AND BURNING OF HEARTWOOD AND SAPWOOD

Almost without exception, the sapwood was more readily penetrated than the heartwood under the same conditions. This difference was approximately the same for each of the acids, at the different temperatures and for both the moist and oven-dry chips. Although the slower penetration of the heartwood is compensated to some extent by the longer time required to burn the chips, it is probably desirable, where mixtures of heartwood and sapwood are used, to choose conditions suitable to the less permeable heartwood.

TIME REQUIRED FOR PENETRATION OF HEARTWOOD CHIPS DURING UNIFORM TEMPERATURE RISE TO 110 DEG. C.

In planning cooking temperature schedules it is desirable to know, in addition to the critical temperature and time required for burning, the time required to penetrate the chips during a gradual temperature rise to the critical temperature and during a gradual dilution of the acid. The experiments which are shown in Table II were, accordingly, made with this objective. Heartwood was used in all of the trials, since it required the longest time for penetration, and a temperature of 110 degrees was chosen because moist sapwood was burned at 115 degrees with an acid of normal strength.

TABLE II
TIME REQUIRED FOR PENETRATION OF CHIPS DURING UNIFORM TEMPERATURE RISE FROM 30 DEG. TO 110 DEG. C.

Acid used		Time required for penetration with rising temperature		Time required for penetration with temperature constant
Total SO_2 Per cent	Combined SO_2 Per cent	B[1] Hours	D[2] Hours	B[1] Hours
3.0	0.8	4.25	..	1.75
6.0	1.2	2.00	..	1.75
8.0	1.2	1.50	..	1.50
5.5	1.25	...	2.5	...

[1] Chips heated indirectly in bomb.
[2] Chips heated with direct steam in semicommercial digester.

The time required for penetration on the rising temperature schedule was only slightly greater for the stronger acids than the time required at constant temperature. In the semi-commercial digester heated by direct steam a slightly longer time was required than when the chips were heated indirectly in the bomb. Although the chips at the bottom of the digester near the steam inlet were penetrated in 2 hours, 2½ hours were required for complete penetration of the top chips. For the weakest acid a considerably longer time was required in the bomb with rising temperature than at constant temperature.

Having established the time required for complete penetration, two experiments were made to determine whether the chips could be burned after being penetrated with the bisulphite by rapidly increasing the temperature. The bomb, containing moist heartwood and the strongest acid used in the previous experiments, was brought up to 110 degrees in 1¾ hours. The temperature was then increased in one digestion to 145 degrees in 1¾ hours more, and in the other the temperature was increased to 148 degrees in ¼ hour and held at 148 degrees for 1 hour. No burned chips were found in either digestion, indicating that chips can be subjected to a high temperature soon after being penetrated without being burned.

Conclusions

The critical temperature above which western hemlock chips burn before complete penetration varies with the acid concentration and moisture in the chips, but under ordinary conditions appears to be 110 deg. C. An increase in temperature or acid concentration increases the rate of penetration as well as that of burning. If a 2-hour period is scheduled for increasing the temperature to 110 deg. C. in a digestion, it is probable that the chips will be completely penetrated before being burned, provided the rate of temperature rise after reaching the critical 110 deg. C. temperature is decreased to a slight extent.

The indications are that chips can be subjected to high temperatures (as much as 148 deg. C.) soon after being

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TAPPI Bibliography and Patent List Ready

The 1933 Annual Bibliography of Paper Making and U. S. Patent List has just been issued by the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York. Non-members may obtain this book on remittance of two dollars per copy.

This volume which is prepared annually by Dr. C. J. West, Chairman of the TAPPI Abstracts and Bibliography Committee and Director of the Research Information Service of the Natural Research Council, Washington, D. C. is distributed to all parts of the world.

So complete and accurate is this work that recently the Papermakers' Association of Great Britain and Ireland decided to supply it to its members this year.

The Technical Association has been rendering an important and useful service to the industry in compiling this book each year. A complete record of every book and article in any language published since 1900 has been made available to the paper industry by the Association.

A New Packing for the Paper Industry

A new packing for the water end of pumps in the paper industry called Klero has been brought out by Greene, Tweed & Co., 109 Duane street, New York, N. Y.

It is imperative that a packing working in this service contain no graphite, or other substances, used in the compounds of ordinary packings that would work their way into the stock being pumped, thus ruining the finished product.

The manufacturers of the widely-known Palmetto brand of packing for high-pressure steam and compressed air, offer Klero to the paper industry as a packing well-suited to the exacting conditions in the pumping of pulp in its various stages of processing.

Working samples will be sent by advising the manufacturers the size packing desired.

Bill to Tax Pulp and Pulpwood

WASHINGTON, D. C., February 14, 1934—Representative Smith of Virginia has introduced a bill in the House which has been referred to the Ways and Means Committee "to raise revenue by taxing certain wood pulp and pulpwood." The bill is as follows:

That section 601 (c) (4) of the Revenue Act of 1932 is amended by inserting before the period at the end of the first sentence thereof the following: "pulpwood, $2 per cord of 128 cubic feet; chemical wood pulp, $7.50 per short ton; ground wood pulp, $4.50 per short ton."

Reduction of Corrosion and Wear by the Use of Laminated Resinous Machine Parts*

By G. E. Landt[1]

I am going to speak on the contribution which resinous machine parts make in securing continuous and uniform operation in the paper mill.

The problem of securing such operation is continuously before every paper mill organization from executive to operator. The paper mill engineer is confronted with the necessity of securing it by constructing the equipment so that it will continue to be effective. This means that wear and tear must be reduced to a minimum.

Wear and tear, granting a satisfactory design of the equipment, are promoted by corrosive action, and by the friction of moving parts. Reduction of corrosion and wear are, therefore, primary needs toward continuous paper mill operation.

We are going to consider the use of a relatively new engineering material in the paper and pulp mill in connection with this problem of reducing corrosion and wear. This material has come to be generically known as "Bakelite." This designation is unfortunate because in no case does a manufacturer constitute the Bakelite Corporation. We, therefore, designate such material generally as laminated resinous or molded material and our own product is marketed under the names of "Celoron" and "Ryertex."

Let me first describe to you briefly the basic nature of the material which I wish to discuss. This material is distinguished by the fact that it is a synthetic resin composition. The resin is a reaction product of phenol and formaldehyde.

This resin has the peculiar property of being converted into an insoluble and infusible substance under the action of heat. In this final condition it cannot be melted. It will not absorb moisture, nor will it be attacked by organic solvents, non-oxidizing acids, or salt solutions.

In the process of manufacture, paper or fabric are impregnated with solutions of the resin. The impregnated material is dried and the sheets are then assembled under the steam heated platens of a hydraulic press. Pressure consolidates the sheets. The heat first fuses the sheets together through the intermediary of the resin and then permanently solidifies the resin rendering the final product impervious to the action of heat, excepting as elevated temperatures cause the material to carbonize.

In this way, two basic types of materials are manufactured. These are differentiated by the fact that in one type, paper is saturated with resin, while in the second type, cloth (usually duck or canvas) is saturated with the resin.

The process whereby these sheets are consolidated is varied so that the final product assumes different forms. The impregnated canvas or paper may be assembled into a mould and pressed into various desired shapes. The impregnated sheets are also wound on mandrels and subsequently cured. The mandrel is removed and a tubular form results. Rods are made in a similar way.

I am going to refer to our products under two different names. These are "Celoron" and "Ryertex." These names have been developed in our sales department and may lend to unnecessary confusion in your minds. Briefly, Celoron refers to material which is sold in the form of sheets, gears and molded parts, excepting bearings; and Ryertex refers to bearings. The last product is sold through the Joseph T. Ryerson Steel Company.

Tabulated below is information concerning the physical properties of different market grades of Celoron. On this sheet, the X designation represents a paper base material and the C and L designations represent a fabric base material.

Grade	X	XX	C	L
Flexural, MD	29,000	19,800	29,000	29,400
Flexural, CD	24,500	16,700	19,000	21,800
Tensile, MD	18,000	14,800	12,000	14,000
Tensile, CD	14,800	11,200	8,000	9,000
Compressive	40,000	36,000	35,000	35,000
Water absorption 1/16"	3.12	1.11	2.5	3.25

Just a few words to fix the general character of this material in our minds. Its weight is half that of aluminum and one-fifth that of steel. Its hardness is comparable with brass. The tensile strength varies from half that of cast iron or aluminum to an almost equal value. The compressive strength is comparable to wrought iron.

Corrosion Resistance

The accompanying tabulation gives information on corrosion resistance. The interpretation of corrosion data is rather complicated. For this reason each corrosion problem should be considered by itself and not on the basis of generalities that are based on laboratory tests. It will suffice to say, however, that we supply the chemical industry with pipe lines and other equipment for use in conveying and containing hydrochloric acid, sulphuric acid, alum, calcium chloride and similar chemicals.

GUIDE AS TO RESISTANCE TO CHEMICALS OF GRADES C AND XX

Chemical	Grade C	Grade XX
Acetic Acid 10%	Attacked	May be used
Acetic Acid 25%	Attacked	May be used
Acetic Acid Conc.	Attacked	Attacked
Ammonium Hydroxide	May be used	Attacked
Cresol	May be used	Attacked
Copper Sulphate	Not to be used	Attacked
Ethyl Acetate	May be used	Attacked
Ethyl Alcohol	May be used	May be used
Ferrous Chloride 5%	Attacked	May be used
Ferrous Chloride 42%	Attacked	Attacked
Hydrochloric Acid 1%	May be used	May be used
Hydrochloric Acid 5%	May be used	May be used
Hydrochloric acid 10%	May be used	May be used
Hydrochloric Acid 20%	May be used	May be used
Nitric Acid 1%	Not to be used	Attacked
Nitric Acid 5%	Not to be used	Attacked
Nitric Acid 25%	Not to be used	Not to be used
Potassium Sulpho Cyanide 10%	May be used	May be used
Sodium Bichromate 5%	May be used	Attacked
Sodium Chloride	May be used	Attacked
Sodium Phosphate	May be used	May be used
Sodium Sulphate	May be used	May be used
Sodium Sulphide	Attacked	Attacked
Sodium Sulphite	Not to be used	Not to be used
Sulphuric Acid 1%	May be used	May be used
Sulphuric Acid 5%	May be used	May be used
Sulphuric Acid 25%	May be used	May be used
Sulphuric Acid 50%	May be used	May be used
Zinc Chloride 50%	May be used	May be used
Caustic Soda All%	Not to be used	Not to be used

Attacked signifies that the material was affected by the designated chemical. Frequently, the use of the material in combination with the specified chemical is nevertheless permissible, because the attack is not severe.

* Presented at the meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry, Appleton, Wis., November 14, 1933.

[1] Member TAPPI, chief chemist, Continental-Diamond Fibre Company, Bridgeport, Pa.

Frictional Characteristics

Resistance to friction and abrasion is also too complicated a property to present in a set of figures. We can more forcibly picture these qualities to you by outlining the results obtained in various industrial applications. We have records of gears manufactured from Grade C material which have functioned in the timing train of automobiles operating under all manner of load and speed conditions to a total of 225,000 miles, without showing more than a few thousand wear. This material is standard in many automobiles for the front and timing gear train where accuracy in performance and consequently the elimination of wear is paramount. Its wide use as pump valve discs is another example where severe conditions of both corrosion and wear are most satisfactorily solved.

As material for the construction of bearings on steel billet mills, the material displaces all competitive material. The low coefficient of friction between the bearing and the journal results in a 25 to 50 per cent reduction in power consumption over the brass and lignum-vitae bearings which had been standard practice until recently. Such performance is not obtained, however, without the application of water lubrication. We have here a situation where the contact between Ryertex or Celoron and steel, iron or brass is very effectively lubricated with a water film. This is of extreme importance in the paper mill where water is always at hand, and where the use of oil as a lubricant is a hazard to satisfactory production. We have appended some figures for your consideration in this connection.

H_2O lubricated bearing.

Surfaces	Surface speed	Coefficient of friction
Ryertex to steel	425	.0227—.0160
Babbit to steel (oil)	415	.0654—.0705
Babbit to steel (water)	405	.110
Ryertex (oil)	280	.0236—.0175
Babbit to steel (oil)	280	.0516—.0678

Ryertex is also superior to Babbitt and Bearing Bronze in its resistance to pressure. With a load of 20M pounds per cubic inch, the permanent set is .0085". That of high grade babbitt is .070 to .100 and of bearing bronze .0113".

Resinous Materials in the Paper Mill

In our imagination we will take a trip through a paper mill and consider various points where Celoron and Ryertex may be advantageously applied, along with such suggestions as may insure the best results. Please bear in mind that this material is a new material and that its application in the paper industry is not yet very widespread, that some failures have attended the attempts to introduce it and that the impetus has come from the paper mill as much as from the laminated Resinous industry in adapting this material to paper mill use.

Briefly, we will attempt to designate here such specific applications as the properties of the material suggest. In practically all instances we can refer to satisfactory applications of the type which we mention. In some instances such applications have not gone very far in the paper mill, but similar applications in other industries justify the suggestions which we will make.

Washers and Beaters

In the washing and beating room the principal application is as bearings to the main shaft of the beater roll. Such bearings are now cooled by sending a stream of water through the housing. This should be continued and the water should be permitted to penetrate the contact surface between the journal and the bearing. We have records of two such installations which have been in operation for over a year, and which thus far have proven entirely satisfactory. The conditions of operation in these installations are a roll speed of 120 r.p.m. and roll weight of 6000 pounds.

The expected result should be a reduction in the power consumption at the bearing surface, and the elimination of oil lubrication. The most nearly analogous service to this is in steel rolling mills where the duty is much heavier and the operating conditions much more severe. This material has become firmly established as bearings for roller mills.

The driving gear on the washing cylinder may suitably be a Celoron gear. No specific precautions are necessary here. The gear may be allowed to run dry or may be occasionally lubricated with a small amount of grease. The chief advantage obtained would be long life and noiseless operation.

Celoron bearings for agitator shafts in stuff chests will eliminate the necessity of oil lubrication and the hazard of oil spots in the paper. Where such bearings are on vertical shafts, no water lubrication is necessary; in fact, under the duty conditions imposed on such agitators it would seem that lubrication would never be necessary.

In the instance where stuff pumps or water pumps embody the valve disc principle, Celoron pump valves have been found to give long life and tight valves.

The Machine Room

In the machine room, the use of Ryertex bearings can materially improve the smoothness of operation at a number of points. We have instances where bearings have been installed on jordans, and are giving satisfactory results. The load and speed conditions of jordaning are such that water lubrication of the bearing is necessary. Such bearings may also be installed on the press and couch rolls, which in most instances are already equipped with water cooling devices. This permits the easy application of water lubrication. Similar construction on the calender rolls will permit the use of Ryertex bearings, excepting that the installation must be such that no leakage occurs between the journal and the bearings for obvious reasons. I leave to your imagination the problem of so constructing the bearing.

If the felt conveyor rolls on your drier cylinders are not equipped with ball bearings, Ryertex bearings are worth while considering. Under the load and speed conditions at this point of application we have satisfactorily eliminated lubrication, but this will depend on the speed at which your machine operates. This has been advantageous in eliminating the hazard of oil spots on the paper, aside from permitting economies in oil and supervision.

The table roll bearings are also a fruitful source of oil contamination. The continued presence of water here creates an ideal situation for the use of bearings. It is recommended that the material be purchased in tubular form, that the tubes be split lengthwise and that the material be inserted as bushings in the housings now in use. Covers over the table roll journals should be eliminated and packing with grease becomes unnecessary. The bearings should run month after month without attention. The low frictional resistance is an added advantage in reducing the drag on the wire.

One added word concerning the water lubricated bearing. Steel journals will naturally form a thin film of rust while standing idle. It is, therefore, desirable to rub a film of grease on them before shutting down the mill.

Doctor blades are another form in which this material has been applied very satisfactorily. I was reecntly in a mill in which the paper machine was equipped with doctor blades from one end to the other. The wire rolls, the breast rolls, couch rolls, the press rolls, several of the drier

cylinders and the calender stacks were all equipped with such blades. In this installation the blades had been in use for a year and a half without any sign of unsatisfactory performance and over that period of time there had been no instance of couch or press roll marks on the sheet. This difficulty had previously been a constant source of irritation.

When calender rolls have been chromium plated, the use of Bakelite doctor blades is almost obligatory. Steel blades would split the coating within a half hour. Celoron doctor blades permit constant use month after month without concern or worry.

Celoron doctor blades produce an even scraping action which is accompanied by a cushioning effect. This serves to protect the rolls against wear. Such blades will be absolutely uniform and will contain no hard particles which will scour ridges on the calenders.

It is desirable to make these blades ¼-inch thick. Thinner blades may be satisfactory. I have seen installations on calender stacks where the blades 1/16-inch and 1/32-inch thick were giving good results. I have seen other installations where ⅛-inch blades were considered too thin for satisfactory performance.

The bevel should be cut on the edge of the blade before installation. This is preferable to allowing the bevel to wear, as is the case with some other materials. A sharp bevel is recommended by some users. On the wet end of the machines, blades which have been fabricated from Grade C material, ¼-inch or heavier, have been generally found to be most satisfactory. On the calender rolls, a grade which we designate as Grade L gives best results. This is also a fabric base material, but the fabric used is very light in weight and will show much more uniform wear than Grade C.

Celoron shaker panels on screens and machine tables should present considerable advantage over wooden panels. They will not rot. They should maintain their elastic qualities indefintely and, therefore, eliminate the necessity of shut-downs and repairs at these points.

Celoron makes very satisfactory cam blocks on screens or any other vibrating equipment. For this application, Grade C material should be used and the cam block should preferably be cut so that the blow falls against the flat surface of the fabric.

The use of Celoron covered table rolls is in the experimental stage. In this application a metal base table roll, preferably aluminum, is covered with a paper base grade of material. There are several possible advantages to accrue from this type of table roll. The weight is considerably reduced. This reduces the drag on the wire and promotes longer wire life. The low frictional resistance between this material and the wire further reduces this drag and further promotes wire life. The lower weight of the table rolls is also an advantage when one considers the shake of the machine. The change in momentum that accompanies the shake is very severe and the reduction of this change by the reduction of the weight of the table is an advantage both in reducing wear on the machine and in a slight saving on power.

Suction box covers made of Celeron are another standard application. Up to the present time Grade C material has been widely used, but we have recently ascertained that certain benefits may be expected from the use of Grade XX material in suction box covers due to the fact that Grade XX is more impervious to moisture and will, therefore, maintain a lower coefficient of friction against the machine wire. In general, we recommend the subtsitution of 1 or 1½-inch stock for the present wood cover, resurfacing this on a planing machine or surfacing machine when necessary. This material is advantageous in that it presents a durable, impervious body to the softening action of the water and the abrasion action of the wire. Its uniform structure eliminates the detrimental effect of knots or hard spots that occur in wood. It does not splinter and these qualities reduce the wear and tear on the wire. Its low frictional resistance against the wire promotes wire life.

In some instances it has been possible to measure the reduction of power required to drag the fourdrinier wire over a Celoron cover as compared with a wood cover. There is involved here a very definite saving in power which will defray the cost of such a cover in any paper mill within a few weeks, but the principal advantage is that since the drag on the wire is considerably less, longer wire life will result.

We have in the development stage a suction box cover in which we propose to use a much thinner sheet of Celoron that we normally recommend. This sheet will be assembled on a brass base. When the surface finally is worn it may be reversed, and when the reversed side is done for, thrown away, and replaced by a new cover.

We are not yet sure just what life can be expected from such a suction box surface. If it is long enough, and we think it will outlast the surface of a wood cover from 3 to 10 times, the above form of application will be justified in spite of the waste involved.

When resurfacing is necessary, this may be carried out on a planing machine, or surfacing machine, one of which is put out by one of your local manufacturers.

On wet machines we propose an installation on suction boxes which we believe is superior to all others. We propose that the box be constructed of a brass pipe with one side cut off. A section of Celoron tubing is fastened into the open section, and a combination tube of brass and Celoron results. The Celoron contains the slot through which the water is sucked. The construction will promote felt life because rough edges at the slot will be eliminated. This box will not leak even when dried out.

On high speed machines, where metal to metal contact on the driving gears on the drying cylinders may result in crystallization, it has been found that the use of the Celoron on the rim of alternate gears, where the teeth are formed, will break up the metal contact, and eliminate crystallization and thereby prevent breakage and consequent shut-downs.

Below is a summary of such installations of which I have knowledge and information. This will indicate to you such points of application as we may consider to be fairly well standardized, principally the application of doctor blades, and at certain points of the equipment as bearings, and as suction box covers.

Other points of application, principally bearings on beaters and jordans and savealls, shaker panels and saveall troughs must still be considered in the development stage.

Application of spreaders and table rolls are still definitely experimental.

Kind of installation	No.
Bearings, Beater rolls	2
Jordan	1
Stuff chest agitator	2
Press rolls	1
Couch rolls	2
Wire rolls	2
Felt rolls	2
Table rolls	2
Gears	
Doctor blades	16

Kind of installation	No.
Wet end	2
Calenders	3
Driers	3
Suction box covers	17
Calender rolls	1
Table rolls	
Savealls	1
Bucking cylinders on paper machines	1
Pipe fittings	6

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Machinery

Relation Between the Level of Pulp and Its Speed in the Head Box. A. Abramovich, I. Benkovskii and D. Flyatte. Bum. Prom. 11, No. 11:46-50 (1932).—A preliminary report.—C. J. W.

Electrical Potentials (in Paper Mill Machinery) and Their Reduction by Radioactivity. D. Krohn Holm. Papir-J. 21: 24-27 (1933); C. A. 27: 2577.—The accumulation of electric charges on belts, paper bands, etc., may be prevented by placing a grounded metal plate, covered with a thin layer of radioactive mineral, near the points at which charges originate.—C. J. W.

Tako O. Y. in Tammerfors. Finnish Paper and Timber J. 15, No. 7: 245-247 (English), 294-296, 298-299 (Swedish) (Apr. 25, 1933).—Description of the Finnish boardmill making folding box board, wall board, container board, building board, ceiling papers in various colors and spiral tubes, with illustrations.—C. J. W.

Technical Points to Be Considered in the Purchase of Centrifugal Pumps. E. Oesch. Finnish Paper and Timber J. 15, No. 5: 168-170, 172-174, 176-177 (Mar. 15, 1933).—The technical features of different pump constructions and their suitability for special purposes is discussed.—C. J. W.

Soft Rubber Rolls for High Speed Machines. Finnish Paper and Timber J. 15, No. 6: 215-216, 218 (Mar. 31, 1933).—The article shows how soft rubber rolls for wet presses are gradually replacing hard rubber coverings hitherto in use. Directions for crowning, exchange of such rolls and repairing slight defects are given.—C. J. W.

Analytical Method for the Determination of the Useful Surface of the Drying Part of a Paper Machine. F. G. Shukhman. Bum. Prom. 12, No. 1: 43-45 (1933).—A discussion.—C. J. W.

Recent Trends in Paper Machine Construction. Svensk Pappers Tidn. 36, No. 5 : 188-194, 197-198, 203,-206 (Mar. 15, 1933).—American and European trends for improving the different sections of a paper machine are reviewed.—C. J. W.

Benefits and Experiences from Visiting the Large Canadian Paper Mills. H. Ofvergard. Svensk Pappers-Tidn. 36, No. 3:66-70 (Feb. 15, 1933).—A description of the machinery used and highlights of procedures in Canadian newsprint mills.—C. J. W.

Belt and Wire Guide Regulator. Gottlieb Stohrer, Grossgartach. Ger. pat. 575,414 (Feb. 15, 1930).—J. F. O.

A Modern Crepe Machine. Wochbl. Papierfabr. 64, No. 20: 344 (May 20, 1933).—Description of the crepe machine built by Koebig-Radebeul.—J. F. O.

Process for the Manufacture of Compressed Calender Rolls. Joseph Eck & Sohne. G.M.B.H., Dusseldorf. Ger. pat. 575,388 (Oct. 25, 1930).—In order to prevent the formation of the layers of air which adhere to the discs in the ordinary procedure, the discs are pressed together in a chamber under vacuum.—J. F. O.

Cylindrical Screen for Paper, Carton, Board and Dewatering Machines. Carl Kiefer & Anna Kiefer. Kothen. Ger. pat. 575,387 (Jan. 17, 1930).—The invention concerns an agitator which prevents an orientation of the fibers in the direction of rotation of the cylinder, and at the same time the stock carried on the cylinder is prevented from being washed off.—J. F. O.

Arrangement for the Automatic Keeping and Releasing of the Tension of Felts on a Paper and Board Machine. Linke Hofmann Busch Werke Akt. Ges., Bad Warmbrunn. Ger. pat. 575,540 (Jan. 25, 1931).—J. F. O.

Statistics and Cost Share of Paper Machine Clothing. Oskar Lenz. Papierfabr, 31, No. 20; 293-94 (May 14, 1933).—The author shows how to represent clothing cost by means of a series of curves.—J. F. O.

Vibration Problems in the Paper Industry. I. N. Wunderlich. Papierfabr. 31, No. 17; 257-260 (April 23, 1933).—By means of much mathematics and equations, the author derives formulas for the different types of vibrations encountered in the paper industry.—J. F. O.

A New Method for Moistening Paper. R. Bremmann, Wochbl. Papierfabr. 64, No. 16: 278-79 (April 22, 1933).—The difficulties of obtaining the exact and desired moisture content in paper are discussed, as well as the shortcomings of present apparatus for moistening the sheet and doing away presumably with the uneven conditions of moisture content in the sheet. A new apparatus, called the "Orion" moistening machine, is described which eliminates all previous difficulties. It consists mainly of a specially constructed nozzle through which compressed air as well as water passes.—J. F. O.

Arrangement for Setting and Maintaining the Correct Position of Moving Bands. Firma J. M. Voith, Heidenheim. Swed. pat. 76,118 (Dec. 18, 1928).—J. F. O.

Arrangement for Keeping Clean the Doctors on Paper Machines and Similar Apparatus. Fredrik Grewin, Hallstavik, Sweden. Ger. pat. 569,809 (Aug. 4, 1931).—J. F. O.

Arrangement on Tanks for Drawing Pulp in Order to Obtain Uniform Consistency. A. S. Thunes Mek. Vertsed, Oslo. Nor. pat. 51,882 (Nov. 12, 1931).J. F. O.

Arrangement for Laying Pulp, Ground Wood and Similar Sheets in a Pile. A. S. Myrense Verksted, Oslo. Nor. pat. 51,883 (April 14, 1931).—J. F. O.

Arrangement for Taking Samples of Stock from Cookers, Especially Pulp Digesters. Aktiengesellschaft fur Zellstoff und Papierfabrikation, Aschaffenburg. Ger. pat. 569,901 (Sept. 5, 1931).—J. F. O.

Knotter with Fixed Slitted Plates. Otto Schumann, Heidenau. Ger. pat. 569,662 (Jan. 16, 1929).—J. F. O.

Device for Filling Pulp Digesters. Per Albert Fresk, Robertsfors, Sweden. Czech. Pat. 41,873.—A carrying medium is used which gives the chips a rotating motion within the digester.—J. F. O.

Device for Cooking, Leaching and Washing (Especially for Pulp). Jens Elling, Oslo, Norway. Czech. pat. 42,232.—The material being treated is subjected to a changing pressure and the treatment is carried out in two containers connected to each other.—J. F. O.

Brushing Rolls in the Paper Industry. Wochbl. Pa-

pierfabr. 64, No. 12: 209 (March 25, 1933).—Description of the "Wilep" spiral brush, and a short discussion of brushes in general.—J. F. O.

Quality Belts and Tensile Strength. Walter Lampert. Wochbl. Papierfabr. 64, No. 13: 226 (March 31, 1933).—A refutation of a previous article entitled "Erroneous belt evaluations according to strength values."—J F. O.

Question of Belt Evaluation According to Strength Values. Heydt. Wochbl. Papierfabr. 64, No. 13: 227 (March 31, 1933).—A refutation of a previous article entitled "Erroneous belt evaluations according to strength values."—J. F. O.

Construction of a Modern Rotary Cutter. Gerald Strecker. Wochbl. Papierfabr. 64, No. 8: 138-142; No. 11: 190-194 (Feb. 25, March 18, 1933).—A very comprehensive description of the Strecker rotary cutter. The following points were discussed, general construction and arrangement, bearings, drive for the cutter, arrangement for setting the cutter for the required size, accuracy, speed, and new accessories.—J. F. O.

Machine for the Purification of Flaxes. Svante Anttila, Orimattila. Finn. pat. 14,608 (Jan. 28, 1930).—J. F. O.

Process and Arrangement for the Continuous Control of the Properties of Solid Material Floating in Liquids. Zellstofffabrik Waldhof, Mannheim. Finn. pat. 14,622 (Aug. 25, 1930).—A part of the floating material (fibers) is conducted through a housing of such a construction that it is possible to study the fibers by reflected light.—J. F. O.

Device for the Counting of Sheets of Paper. Aleksander Kartaschew, Hovinmaa. Finn. pat. 14,623 (April 28, 1930).—J. F. O.

Stop Cock for Shower Water Pipe Lines for a Paper Machine. Willy Hahn, Niederschmiedeberg. Ger. pat. 571,267 (July 27, 1931).—J. F. O.

Multiple Motor Drive with Uniform Speed Regulation. A.E.G. Union Elektricitats Gesellschaft, Vienna. Aust. pat. 130,942 (March 15, 1932).—J. F. O.

Drive for a Calender with a Winding Apparatus. Siemens Schuckertwerke Akt. Ges., Berlin. Aust. pat. 130,004 (Dec. 15, 1931).—J. F. O.

Drive Arrangement for the Dryers of a Paper Machine, Which Are Arranged in Groups. Aktiebolaget Svenska Kugellagerfabriken, Gothenberg, Sweden. Aust. pat. 130,060 (May 15, 1932).—Only the felt dryer is driven, the felt then driving the other dryers of the group.—J. F. O.

Arrangement for the Regulation of the Drive Motors of Multiple Unit Machines, Especially Paper Machines. Siemens Schuckertwerke Akt. Ges. Berlin. Aust. pat. 130,437 (July 15, 1930).—J. F. O.

Process for the Treatment of Various Materials in Containers with Hot Leaching Liquids (Extraction Liquids). J. W. A. Elling, Oslo. Finn. pat. 14,670 (May 12, 1930).—J. F. O.

Shake Device for the Breast Roll and Wire of a Fourdrinier. S. Milne, Edinburgh. Finn. pat. 14,720 (Feb. 5, 1930).—J. F. O.

Process for the De-fibering of Digester Stock. J. Wallin, Bengtsfors. Swed. pat. 76,625 (March 30, 1928).—The digester contents are de-fibered, before the washing, in a defibrator having double walls. The inner wall is made like a screen through which the liquor adhering to the stock passes.—J. F. O.

Stock Inlet with Arrangement for the Agitation and Separation of the Stock on the Paper Machine. Firma J. M. Voith, Heidenheim. Swed. pat. 76,565 (March 26, 1928).—J. F. O.

Cylinder Machine Fiberous Materials, Especially for the Paper Industry. Ernst Buchhaas, Prague. Ger. pat. 573,893 (Nov. 18, 1930).—In the stock chest with the cylinder, are many agitators parallel to the axis of the cylinder and revolving in the opposite direction.—J. F. O.

Rewinder for Materials made from Paper and Similar Substances. Goebel Akt. Ges., Darmstadt. Ger. pat. 573,948 (Dec. 6, 1931). The roll to be wound is carried by two supporting rolls, all three rolls having their own drive arrangement.—J. F. O.

Stock Inlet for Paper Machines with a Device for Agitating the Mixture. Aktiengesellschaft fur Zellstoff und Papierfabrikation, Aschaffenburg, Ger. pat. 574,148 (July 19, 1930).—J. F. O.

Regulating Device for Asynchronous Motors for Calender Drives. Siemens-Schuckert Werke Akt. Ges., Berlin. Ger. pat. 571,658 (Feb. 11, 1930). Addition to Ger. pat. 524,021.—J. F. O.

Multiple Motor Drive for Paper Machines. Allgemeine Elektricitats Gesellschaft, Berlin. Ger. pat. 572,084 (Dec. 1, 1929).—J. F. O.

Arrangement for the Cleaning of Screen Plates. Aleks Lampen, Imatra, Finland. Ger. Pat. 572,992 (May 2, 1931). The screens are arranged so that they can be subjected to a pressure medium, such as water or air.—J. F. O.

Revolving Cylindrical Screen for Wood Chips and Similar Materials, Arranged in a Horizontal or Oblique Position. Johan O. Marland, Karlstad, Sweden. Ger. pat. 572,880 (Oct. 30, 1930).—J. F. O.

Winder Device. Jagenberg Werke Akt. Ges. Dusseldorf. Ger. pat. 572,679 (Feb. 3, 1932).—J. F. O.

Apparatus for the Preparation of Experimental Sheets of Paper or Board. Linkopings Armatur och Metallfabriks A. Bol. Linkoping. Swed. pat. 76,250 (Nov. 24, 1928). The sheet is formed on a wire which can be removed from the frame.—J. F. O.

Apparatus for the Automatic Washing Out of Stock Container, Diffusor and Similar Objects. K. Holter and O. Oviller, Oslo, Norway. Swed. pat. 76,342 (Nov. 22, 1930).—J. F. O.

Cylinder Machine. Carl Kiefer. Wochbl. Papierfabr. 64, No. 18: 308-10 (May 6, 1933). By means of a sketch of the clinder, some diagrams and mathematical equations, the author clearly describes the mechanics of the action which takes place when the stock is taken up by the cylinder.—J. F. O.

Arrangement on Wet Presses for Conducting Away from the Press Liquids Which Are Pressed Out. Firma Arthur Schultz, Vienna, Aust. pat. 132,595 (Nov. 15, 1932). Means are provided for conducting the liquid pressed out away from the press.—J. F. O.

Arrangement for a Press. G. Siempelkamp & Co., Krefeld. Ger. pat. 575,453 (Dec. 12, 1931). The invention concerns an arrangement for presses, especially for paper and board machines, in which the paper or board, in web form, is pressed against a cylinder by means of an endless band.—J. F. O.

Doctors and Doctoring. James Strachan. Paper Maker & Brit. Paper Trade J. 85: TS 2-3 (Nov. 1, 1932). A brief discussion of the function and classification of paper-machine roll doctors, their essential features, materials of construction, angle of application and pressure.—A. P.-C.

Making Paper Now and Then. V. S. Denison. Paper Mill 55, No. 50; 4-5, 8 (Dec. 10, 1932). A brief discussion of the fourdrinier machine.—A. P.-C.

Preparing Paper Stuff. H. D. Wells. Paper Mill 55, No. 53: 10 (Dec. 31, 1932). A brief outline of the development of the Allen proportioning and metering system. —A. P.-C.

The Formation of Paper on the Fourdrinier Wire. D. McNeill. World's Paper Trade Rev. 99: 238-244, 294, 296, 327-330 (Jan. 27-Feb. 3, 1933). A discussion of the effect of the various factors affecting formation from the pond to the first suction box.—A. P.-C.

Sprays for Froth Killing. The Watford Engineering Works, Ltd. Brit. pat. 379,375 (Aug. 20, 1932).—The jet is of such a form that the water is introduced tangentially to produce a centrifugal effect, but the interior is made of two diameters and the inlet is drilled at the change of diameter, so that part of the water flows into the larger chamber and part into the smaller. A spring-controlled pricker is provided for clearing the jet orifice. A cone of spray is obtainable which alternately expands and contracts from an angle of approximately 15 deg. to one of 60 deg., so that the jet of spray repeatedly traverses the area of surface under treatment.—A. P.-C.

Method of Smoothing Stock on Fourdrinier Wires. Austin E. Cofrin. U. S. pat. 1,904,780 (April 18, 1933).—A smooth surfaced roll is mounted over the wire a short distance from the slice, so that it dips into the layer of stock on the wire; and it is driven so that its peripheral speed is different from that of the layer of stock.—A. P.-C.

The Modern Dandy Roll. George W. Hardaker. Paper Mill, 55. No. 51: 14-15 (Dec. 17, 1932).—A brief outline of the merits of modern dandy rolls as constructed by the Sinclair Co., Holyoke, Mass., and more particularly of the open-end dandy.—A. P.-C.

The McDonnell Fourdrinier. Frank S. McDonnell. Paper Trade J. 96, No. 17: 27-28 (April 27, 1933).—A description of a fourdrinier provided with a mechanism that will shake the wire approximately midway of its effective length and a statement of the advantages obtained. —A. P.-C.

Value of Tension in Belt Drives. J. N. Smith. Paper Ind. 15: 79 (May, 1933),—An explanation of the manner of determining the proper tension of belts.—A. P.-C.

Proper Couplings Insure Continuity of Machine Operation. Frances A. Westbrook. Paper Ind. 15: 82-83 (May, 1933).—A brief discussion showing the importance of proper selection of couplings used in driving paper making machinery.—A. P.-C.

Study of Electrical Equipment May Suggest Operating Economies. R. R. Baker. Pacific Pulp Paper Ind. 6, No. 13; 11 (Dec. 1932).—A brief discussion giving examples of saving that can be effected by the use of non-condensing bleeder-type turbines for the generation of electrical power, the exhaust steam being used for drying the paper.—A. P.-C.

Electrical Cables in the Paper Mill. J.D.R. Paper Maker & Brit. Paper Trade J. 85: TS 5-6 (Nov. 1, 1932). —A brief discussion of the proper selection and correct installation of electrical cables in paper mills.—A. P.-C.

Dewatering Paper Pulp. Aciens Etablissements Cime and Daniel Perrier. Fr. addn. pat. 41,166. The main patent, No. 723,721 covers a centrifugal machine for removing light and heavy impurities from stock; the present addition provides for the use of the same machine for thickening or dewatering stock.—A. P.-C.

Centrifugal Pulp Purifier. Gustav Ter Meer. Fr. pat. 737,810.—Improved operation of such machines is obtained by constructing them so that the stock is fed into the basket in a direction parallel to the axis and is introduced at a point under the level of the liquid; and also that the purified fibers and clean water are discharged at the outer zone (nearest the wall of the basket), the velocity of discharge and speed of rotation being regulated so that the fibers (which centrifugal force tends to throw against the wall of the basket) pass radially through the liquid only when they arrive near the discharge outlet. This invention is applicable to both horizontal and vertical machines.—A. P.-C.

Safety Device for Paper Pulp Extractors. Lemuel V. Reese and George W. Johnson assignors to The American Laundry Machine Co. U. S. pat. 1,903,367 (April 4. 1933).—In a centrifugal classifier for removing light and heavy impurities from pulp, the valve in the stock supply line is normally closed, and is controlled by the driving motor so as to be automatically opened when the motor speed reaches a predetermined value.—A. P.-C.

Device for Cutting Pulp Sheets on Wet-Machine Rolls. Estblissements Rouchaud et Lamassiaude. Fr. pat. 741,162.—A displaceable knife is inserted in a longitudinal groove in the surface of the roll. When in non-operating position the knife forms part of the surface of the roll, and suitably operated means are provided for displacing the knife and making it project beyond the surface of the roll, thus cutting the layer of pulp that has been built up thereon.

Dandy. Frank S. McDonnell. U. S. pat. 1,903,311 (April 4, 1933).—A pair of spaced lower rolls are supported tangent to the fourdrinier wire, and an upper roll is supported offset sidewise from the two lower rolls. An endless wire passes around the three rolls. The two lower rolls can be adjusted vertically, while the upper roll can be adjusted to regulate the tension of the wire passing around it. A suction box is provided under the fourdrinier wire near the stretch between the two lower rolls, and a suitable device is provided to wash the small wire at a point between the upper roll and one of the lower rolls.—A. P.-C.

Seam for Paper Machine Drier Felts. George E. Putvin, U. S. pat. 1,903,406 (April 4, 1933).—The ends of the felt are joined by means of a patch having ravelled ends, which is held to the ends of the felt by means of a waterproof adhesive.—A. P.-C.

Electro-Dynamic Brakes for Winders. F. Venneman. Mon. Papeterie Belge 13: 116-117 (Feb., 1933).—A brief explanation of the principle of electro-dynamic brakes, showing their suitability and advantages for paper winders.—A. P.-C.

Apparatus and Process for Washing Paper Web. Heinrich Nicolaus and Co. G.m.b.H. Brit. pat. 362,557 (Sept. 24, 1930).—Residual liquid used for converting the paper into parchment is removed by washing the web with friction over the whole width thereof, lengthwise of the web and in opposite directions alternately. —A. P.-C.

Pulp and Dirt Separator. Harold D. Wells, U. S. pat. 1,897,156 (Feb. 14, 1933).—A rotating screen drum is mounted inside a cylindrical casing. The drum is divided into a number of compartments by transverse partitions extending from the shaft to the screen, each partition having an opening spaced from the drum and the shaft and the openings being positioned so that no two successive openings are in alinement with each other. In each of the compartments is a scoop, the inner end of which is provided with a return bend partly circumscribing the discharge outlet of the compartment. Three longitudinal spray pipes are provided to clean the screen.—A. P.-C.

Horizontal Centrifugal Pulp Screen. J. M. Voith Co. Fr. pat. 742,989 (Sept. 20, 1932).—The shaft of the machine is provided with a number of blades extending to near the inside wall of the screen drum, which convert the

axial movement of the stock into a radial movement and distribute it more evenly over the surface of the screen. The screenings outlet is at a suitable distance above the screen, so that screening is carried out under a slight pressure, and the good stock outlet is at the bottom of the machine.—A. P.-C.

Method of and Apparatus for Purifying and Classifying Pulp. George A. Richter and Elwood Ebie assignors to Brown Co. U. S. pat. 1,899,106 (Feb. 28, 1933).—Pulp is passed over a screen in such a way as to preclude the formation of a mat on the active screen surface. By using a sufficiently fine screen, colloidal coloring matter, resins, fibrillae and short lengths of broken fibers pass through the screen and are separated from the longer unbroken fibers.—A. P.-C.

Machine for Staining Paper Strips. Wade E. Sackner assignor to Grand Rapids Fibre Cord Co. U. S. pat. 1,886,428 (Nov. 8, 1932).—Paper is unwound from a roll, passed through a trough of water to wet it and then slightly above a series of troughs containing color solutions. The color in each bath is applied to the paper by means of narrow felts attached to one side of a cam rotating in a direction contrary to the travel of the paper.—A. P.-C.

Apparatus for Indicating and Controlling Variations in Paper on the Paper Machine. Frederick Wierk assignor to Johnson and Wierk, Inc. U. S. pat. 1,886,508 (Nov. 8, 1932).—The sheet is made to pass between the two plates of an electrical condenser (one of the plates may be constituted by the surface of one of the driers). The condenser is inserted in an arm of a Wheatstone's bridge in an adjacent arm of which is inserted an adjustable condenser. Variations in the characteristics of the paper (and more particularly in the moisture content) produce variations in the capacity of the condenser which upset the balance of the bridge, and this in turn may be made to operate mechanism to restore the sheet to its normal conditions.—A. P.-C.

Stock Inlet for Paper Machines. William J. Hyde, assignor to The Northwest Paper Co. U. S. pat. 1,898,372 (Feb. 21, 1933).—The apron over which the stock flows from the head box on to the wire is provided with a hill-like obstruction formed by a roll eccentrically mounted on a shaft under the apron and just back of the breast roll, so that the height of the obstruction may be adjusted while the machine is running.—A. P.-C.

Paper Machine Slice. William H. Cape, assignor to S. D. Warren Co. U. S. pat. 1,902,798 (March 21, 1933). —The patent covers various mechanical features in the design and construction of an extensible, flexible slice built up of a series of overlapping plates. The latter are mounted so as to be individually adjustable toward or away from the wire; and the slice as a whole is pivotally supported so that it may be adjusted without disturbing the adjustments of the individual plates.—A. P.-C.

Combined Consistency Regulator and Stock-Feeding Device for Paper Machines. Arthur G. Wakeman. U. S. pat. 1,903,151 (March 28, 1933).—The stock, at a consistency lower than that desired, is fed from a constant level head box through a centrifugal separator provided with a number of annular baffle plates provided near their peripheries with spaced perforations. By maintaining operating conditions constant, a practically constant consistency of discharged stock is obtained, the consistency depending on the rate of feed, number and width of the baffle plates, size and number of perforations in the baffles and speed of rotation. Still closer regulation of the consistency can be obtained by maintaining the consistency of the stock fed to the rotor between relatively small limits of fluctuation.—A. P.-C.

Method of and Apparatus for Making Paper. Earl E. Berry and Theodore C. Roberts, assignors to Beloit Iron Works. U. S. pat. 1,898,611 (Feb. 21, 1933).—The troubles frequently encountered due to crushing at the nip of the pressure roll and transfer roll, or drier drum, when making light weight or tissue papers on Yankee or Harper fourdrinier machines, are corrected by the use of a suction pressure roll to suck the nip dry and eliminate crushing.—A. P.-C.

Pattern Rolls for Applying Colored Designs on Paper or Board. Hermann Palm. U. S. pat. 1,882,090 (Oct. 11, 1932).—The roll consists of a metallic core having a roughened surface and a base of flexible absorbent material (such as a textile fabric) on which the desired design pattern is applied in relief.—A. P.-C.

Wire or Felt Cleaner. Gilbert J. Schofield. U. S. pat. 1,888,575 (Nov. 22, 1932).—The patent covers various features in the construction and mounting of a traveling spray-nozzle to clean paper machine wires or felts designed to simplify construction, increase the life of the device and improve its efficiency.—A. P.-C.

Suction Press Roll. John F. Joseph, assignor to The Cincinnati Rubber Manufacturing Co. U. S. pat. 1,895,-039 (Jan. 24, 1933).—Relative displacement of the rubber covering and metal shell of suction rolls is prevented by first shrinking a hard rubber sleeve on to the metal core and then applying the softer rubber facing, which will then cling tenaciously to the roll even at very high speeds and under very high pressure. Dovetailed longitudinal grooves are provided in the metal shell to serve as anchorage for the hard rubber base.—A. P.-C.

Automatic Felt Washer for Paper Machines. Joseph D. Kaster, assignor to Oregon Pulp and Paper Co. U. S. pat. 1,898,545 (Feb. 21, 1933).—A suction box is supported on tracks under the felt so that the latter just rubs across the top of the box. It is provided with suction holes and just ahead of each hole a stream of water is forced against the felt. The suction box is moved slowly back and forth across the width of the felt, the operating and reversing mechanism being hydraulically actuated.—A. P.-C.

Paper Marking Device. Harrison R. Williams. U. S. pat. 1,901,425 (March 14, 1933).—The device, which may be placed either in the press section or drier section of the paper machine, preferably the latter, comprises a flexible endless marking belt which passes preferably between two metal rolls, one of which may be a drier roll. The belt consists of a fabric such as canvas, to which is applied a layer of vulcanized hard rubber on which is formed the design to be impressed on the paper.—A. P.-C.

Winding Band to Be Wound on Rolls Used in the Paper Making Industry. Max Wenzel. U. S. pat. 1,898,413 (Feb. 21, 1933).—The band is provided, at the spot where the winding cord is to rest, with a groove extending over the entire length of the band and of a suitable size to accommodate the cord.—A. P.-C.

Slitting Device. Robert McC. Johnstone, assignor to Cameron Machine Co. U. S. pat. 1,895,852 (Jan. 31, 1933).—A simple and strong construction is provided, which minimizes vibration and chattering of the score-cut wheels.—A. P.-C.

Spreader Bar for Calenders. James R. Simpson. U. S. pat. 1,896,205 (Feb. 7, 1933).—The invention provides a spreader bar, preferably in the form of a light weight metal pipe, bent through a small angle equi-distant between its ends, and supported at its ends for yielding vertical movement.—A. P.-C.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING FEBRUARY 10, 1934

CIGARETTE PAPER

American Tobacco Co., Pr. Roosevelt, Havre 350 cs.; Champagne Paper Corp., McKeesport, Havre, 804 cs.; Champagne Paper Corp., Champlain, Havre, 299cs.; Standard Products Corp., by same, 83 cs.; Standard Products Corp., Washington, Havre, 31 cs.; DeMauduit Paper Corp., by same, 329 cs.

WALL PAPER

F. J. Emmerich, Este, Hamburg, 2 bls.; ——, Washington, Havre, 6 cs.; R. F. Downing & Co., Ascania, Southampton, 2 cs.; Titan Shipping Co., Berengaria, Southampton, 1 cs.

NEWS PRINT

Jay Madden Corp., Pr. Roosevelt, Hamburg, 134 rolls; Jay Madden Corp., Este, Bremen, 136 rolls; Perkins Goodwin & Co., Este, Hamburg, 100 rolls.

PRINTING PAPER

Ozalid Corp., Binnendyk, Rotterdam, 14 cs.

WRAPPING PAPER

Walker, Goulard, Plehn Co., Pr. Roosevelt, Hamburg, 717 rolls; Heemsoth Basse & Co., Bimendyk, Rotterdam, 7 cs.

PACKING PAPER

Geraert Co. of America, Westernland, Antwerp, 1 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Olympic, Southampton, 25 cs.; H. Reeve Angel & Co., Inc., Ascania, Southampton, 5 cs.; E. Fougera & Co., Champlain, Havre, 62 cs.

TISSUE PAPER

W. J. Byrnes & Co., Berengaria, Southampton, 3 cs.

SURFACE-COATED PAPER

Geraert Co. of America, Westernland, Antwerp, 54 cs.; ——, by same, 8 cs.; Globe Shipping Co., Este, Bremen, 52 cs.; Globe Shipping Co., Washington, Hamburg, 6 cs.; E. B. Baehr & Sons, by same, 7 cs.

METAL-COATED PAPER

K. Pauli Co., Este, Bremen, 45 cs.

PHOTO PAPER

American Express Co., Este, Hamburg, 20 cs.; Bush Service Corp., Ascania, Southampton, 1 cs.

BASIC PAPER

Globe Shipping Co., Este, Bremen, 12 cs.

TRANSFER PAPER

Manhattan Decalcomania Co., Este, Bremen, 1 cs.; Rohner Gehrig & Co., Bremen, Bremen, 34 cs.

DECALCOMANIAS

Sellers Transportation Co., Bremen, Bremen, 27 cs.; L. A. Consmiller, by same, 14 cs.

WOOD PULP PAPER

A. Giese & Son, Breedyk, Rotterdam, 12 cs.

SILK PAPER

P. J. Schweitzer, Excalibur, Marseilles, 4 cs.

MISCELLANEOUS PAPER

American Mitchell Fashion Publishers, E. Francqui, Antwerp, 2 cs.; Walker, Goulard, Plehn Co., Breedyk, Rotterdam, 10 bls.; ——, Este, Bremen, 7 cs.; Keller Dorian Paper Co., Champlain, Havre, 2 cs.; Devoe & Raynolds Co., by same, 5 cs.; ——, Bremen, Bremen, 7 cs.

GLUE STOCK, ETC.

American Express Co., Georgic, Liverpool, 249 bags, hide cuttings; ——, Pr. Roosevelt, Hamburg, 54 bags, hide cuttings; ——, by same, 230 bags, bone glue.

RAGS, BAGGINGS, ETC.

Banco Coml. Italiane Trust Co., Cameronia, Glasgow, 63 bls. paper stock; Keene & Arkus, McKeesport, Dunkirk, 99 bls. rags; Loumar Textile Byproducts Co., Este, Bremen, 105 bls., bagging; ——, American Banker, London, 83 bls. strings; ——, Washington, Hamburg, 80 bls. paper stock; Irving Trust Co., Capetown Maru, Hamburg, 87 bls. paper stock.

OLD ROPE

——, Kelso, Newcastle, 215 rolls.

CHINA CLAY

Whitaker, Clark & Daniels, Georgic, Liverpool, 390 bags; English China Clay Sales Corp., by same, 206 bags.

CASEIN

D. C. Andrews & Co., Pr. Roosevelt, Hamburg, 70 bags; D. C. Andrews & Co., Este, Hamburg, 70 bags; D. C. Andrews & Co., Washington, Hamburg, 70 bags.

WOOD PULP BOARDS

Johaneson, Wales & Sparre, Inc., Capetown Maru, Hamburg, 375 bls.

WOOD PULP

Castle & Overton, Inc., Black Heron, Rotterdam, 650 bls. wood pulp, 130 tons; Castle & Overton, Inc., Breedyk, Rotterdam, 600 bls. wood pulp; Castle & Overton, Inc., Binnendyk, Rotterdam, 562 bls. wood pulp; Castle & Overton, Inc., Este, Hamburg, 1495 bls. wood pulp, 299 tons; First Nat'l. Bank of Boston, Este, Hamburg, 327 bls. wood pulp; ——, Washington, Hamburg, 1036 bls. wood pulp, 155 tons; Price & Pierce, Ltd., Cliffwood, Mallvik, 3600 bls. sulphate, 600 tons; Price & Pierce, by same, 3150 bls. sulphite, 525 tons; Price & Pierce, Cliffwood, Stugsund, 1875 bls. mechanical, 375 tons; ——, Cliffwood, Iggesund, 2250 bls. sulphite, 450 tons; Bulkley Dunton & Co., Ditmar Koel, ——, 600 bls. wood pulp.

ALBANY IMPORTS

WEEK ENDING FEBRUARY 10, 1934

Perkins Goodwin & Co., Kersten Miles, Sundsvall, 55 bls. sulphate; Perkins Goodwin & Co., Kersten Miles, Munksund, 6000 bls. sulphate, 100 tons; Perkins Goodwin & Co., Kersten Miles, Obbola, 7000 bls. sulphate, 1000 tons.

PORTLAND IMPORTS

WEEK ENDING FEBRUARY 10, 1934

J. Andersen & Co., Kersten Miles, Sundsvall, 9000 bls. sulphate, 1500 tons; Bulkley Dunton & Co., Kersten Miles, ——, 2875 bls. chemical pulp, 575 tons; Bulkley Dunton & Co., O. Siemers, ——, 2875 bls. wood pulp; Bulkley Dunton & Co., Griesheim, ——, 1500 bls. wood pulp; Bulkley Dunton & Co., Korsholm, ——, 6850 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING FEBRUARY 10, 1934

American Express Co., Georgic, Liverpool, 23 bls. rags; ——, by same, 30 bls. rags; Castle & Overton, Inc., Breedyk, Rotterdam, 920 bls. wood pulp; Bulkley Dunton & Co., Augsburg, ——, 425 bls. wood pulp; Parsons & Whittemore, Inc., by same, 250 bls. sulphite; Parsons & Whittemore, Inc., Liverpool Rowe, ——, 600 bls. wood pulp; Gottesman & Co., Inc., Griesheim, Sweden, 100 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING FEBRUARY 10, 1934

Castle & Overton, Inc., Breedyk, Rotterdam, 150 bls. wood pulp; Corn Exchange Bank, Trust Co., by same, 21 cs. Ivory board; The Lang Co., by same, 76 bls. rags; Price & Pierce, Ltd., Cliffwood, Mallvik, 900 bls. sulphite, 150 tons; Price & Pierce, Ltd., Cliffwood, Hugsund, 1000 bls. mechanical pulp, 200 tons; Bulkley Dunton & Co., Augsburg, ——, 500 bls. wood pulp; Gottesman & Co., Inc., Augsburg, Finland, 600 bls. wood pulp; Gottesman & Co., Inc., Kiruna, Sweden, 1000 bls. wood pulp; Parsons & Whittemore, Liverpool Rowe, ——, 9000 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING FEBRUARY 10, 1934

Congoleum Nairn Co., McKeesport, Havre, 39 bls. bagging; Castle & Overton, Inc., Breedyk, Rotterdam, 2390 bls. wood pulp; Bulkley Dunton & Co., Black Eagle, ——, 2200 bls. wood pulp; Bulkley Dunton & Co., City of Newport News, —— 1300 bls. wood pulp; Bulkley Dunton & Co., Luossa, ——, 5725 bls. wood pulp; Bulkley Dunton & Co., Graeugesburg, ——, 2925 bls. wood pulp; Parsons & Whittemore, Inc., City of Baltimore, ——, 500 bls. sulphite; Gottesman & Co., Inc., City of Newport News, Czecho-Slovakia, 1245 bls. wood pulp; Gottesman & Co., Inc., City of Norfolk, Czecho-Slovakia, 1300 bls. wood pulp; Gottesman & Co., Inc., Luossa, Sweden, 8345 bls. wood pulp; Gottesman & Co., Inc., Topeka, Norway, 3360 bls. wood pulp; Gottesman & Co., Inc., Warya, Sweden, 5060 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING FEBRUARY 10, 1934

Chase National Bank, Breedyk, Rotterdam, 411 bls. bagging; R. J. Reynolds Tobacco Co., by same, 760 cs. cigarette paper; R. J. Reynolds Tobacco Co., by same, 500 rolls cigarette paper.

Spaulding Sells Pulp to Japan

SEATTLE, Wash., February 13, 1934—The entire production output of the Spaulding Pulp and Paper Company of Newberg, Ore., will be purchased henceforth by Japanese business firms under contract agreements signed recently, E. Fred Emery, vice-president, has announced. The initial shipment of bailed pulp is already on its way to Japan, an order of 100 tons. Monthly capacity of the Spaulding plant is 1,500 tons of pulp monthly.

Official report of the new Japan-Oregon pulp contract is significant from an industrial angle inasmuch as the 100-ton shipment was the first large shipment of pulp sent to Japan from this state. Continuous export shipments are expected to be maintained throughout 1934, thus keeping the Spaulding mill at peak capacity all of that period. It is possible that Japanese companies will continue to use Oregon pulp products for at least three years. Opening of the Spaulding mill has meant a boon to the Newberg community. Idle for two years, due to low pulp prices which prevented profitable operation, the mill now employs 100 workers on a basis of four six-hour shifts. In addition more than 200 farmers, truckmen and wood choppers have been employed in supplying wood and fuel.

Negotiations for the pulp export contract with Japan was consummated through efforts of its officers, J. C. Compton, president, O. M. Allison, secretary-treasurer and Mr. Emery. The contract was signed in December and immediately thereafter Spaulding officials set aside $20,000 for the installation of cutting operating expenses. Actual production began January 25.

Says Mr. Emery, "Because of the strenuous work of Mr. Allison and Mr. Compton, we have succeeded in obtaining orders for initial shipments of 7,000 tons of pulp. We began work on the plans for selling pulp to Japan when the price of pulp came up to a point which justified reopening the mill. O. T. Takahashi & Co., Seattle, handled the negotiations for the Japanese firms."

Shipments of 500 to 600 tons will be made three times a month on the capacity of 1,500 tons manufactured, Mr. Emery pointed out. Says he, "This shipment of 100 tons is the first shipment of pulp to go direct from Oregon to Japan as far as we know. Most of the other mills producing pulp ship to domestic markets. We believe this is the beginning of an arrangement through which these firms will take the entire output of our plant for an indefinite period. Indications are that the market will be favorable for the next three years."

Under the NRA code authority, pulp made from white fir and hemlock similar to that used in production at the Spaulding mills sells for $42 on the Atlantic seaboard and the figure for the Middle West—the former market for the mill—is $47 via railroad.

Built in 1925 at a cost of $1,000,000, the Spaulding Pulp and Paper plant has facilities for additional expansion over the 1,500 monthly figure and its maximum output can be stepped up to 2,000 to 2,400 tons a month. Greater proficiency in operation was effectuated by installation of a "chemi-pulp" system at a cost of $10,000.

To Study Cellulose at Carnegie

Dr. Charles Carpenter, graduate of Syracuse University and the Technische Hochschule, Germany, has begun work at Carnegie Tech with Dr. Ernst Berl, chemistry research professor, on an investigation of cellulose.

Dr. Carpenter came from Lawrence College, Appleton, Wis., where he was a special student in the institute of paper chemistry. He has been awarded a DuPont industrial grant at Tech.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, February 14, 1934.

Trading in the local paper market was fairly active during the past week. Demand for the various standard grades of paper is steadily improving. Sales forces of the leading paper organizations continue optimistic. Prices are generally holding to previously quoted levels, without difficulty.

The news print paper market continues to display improvement. Advertising volume in the leading newspapers is ahead of the corresponding period last year. Manufacturing operations in North America are well maintained. Stocks at the mills are below normal. The price situation is more satisfactory than for some time past.

Demand for the various grades of paper board is persistent. Box board is moving in good volume. Board prices continue firm. The fine paper market is exhibiting a stronger undertone. Tissues are going forward freely. The coarse paper market is sharing the general improvement.

Mechanical Pulp

The position of the ground wood pulp market is practically unchanged. Production in the United States, Canada, and abroad, is practically keyed to consumption and the statistical position of the industry continues sound. Quotations on both domestic and imported mechanical pulp are holding to schedule.

Chemical Pulp

Conditions in the chemical pulp market are considered satisfactory. While the prevailing demand for domestic and imported grades is rather light, inquiries for future delivery are fairly numerous, and the outlook for the future is promising. Prices of practically all grades are well maintained.

Old Rope and Bagging

The old rope market is moderately active. Demand for both domestic and foreign old manila rope is mainly seasonal. Small mixed rope is quiet. Steadiness prevails in the bagging market. Scrap and gunny bagging are in good request. Roofing bagging is arousing more interest. Bagging quotations are firm.

Rags

Some improvement transpired in the domestic rag market. Demand for new cotton rags is livelier. No. 1 white shirt cuttings and fancy cuttings are in satisfactory request. Roofing grades are firmer. The imported rag market is moderately active, with quotations showing an upward trend.

Waste Paper

The paper stock market is steady to firm. Board mill demand for the lower grades is improving, and, with offerings limited, the price situation is stronger. The export demand for over-issue news continues heavy. The higher grades of waste paper are holding up well, especially hard and soft white shavings, and book stock.

Twine

The local twine market is practically marking time, and most of the business transacted recently has been along routine lines. With the approach of the Easter holidays, however, demand for the various grades should become brisker shortly. Prices are holding to previously quoted levels, in most instances.

Philadelphia Paper Demand Active

PHILADELPHIA, Pa., February 12, 1934—A special meeting of the Philadelphia Paper Trade Association is being held today at the association's headquarters in the Drexel Building, at which plans regarding the code are being worked out. The newly appointed Commodity Committees, under the chairmanship of William S. Wilcox, of the Wilcox-Walter-Furlong Company, 17 South Sixth street, are functioning and while the appointments of the various chairmen have not yet been completed, progress is being made.

The demand for practically all varieties of paper continues quite active with assurances that sharp further expansion will take place during at least the remainder of the current month and March. Paper stock prices experienced an unexpected stimulus this week attributed to lack of accumulations and falling off in collections.

Scott Paper Company reports for 1933 net sales of $7,612,940, compared with $8,007,190 in 1932, and net income of $825,948, against $818,405. The net, after preferred dividends, was equal to $4.01 per share on the common stock, compared with $3.90 per share in the previous year. Thomas B. McCabe, president, in his report to stockholders, says: "Sales in cases increased 4.3 per cent over 1932, although dollar volume decreased 4.9 per cent, as a result of lower selling prices. Scientific research and development work resulted in more effective methods for manufacturing, selling and advertising."

In the issue of the PAPER TRADE JOURNAL of February 1, it was incorrectly stated in connection with the article on the Administrative Committee for the Philadelphia trading area, that Harry F. Donahue was connected with the Quaker City Paper Company. It should have been stated that Mr. Donahue was connected with the Molten Paper Company.

The twenty-ninth annual banquet of the Waste Merchants Association will be held on Saturday evening, April 14, at the Penn-Athletic Club. H. M. Bailey, chairman of the banquet committee, has issued invitations and is highly sanguine of its success.

Norman W. Fort, head of Thomas W. Price Paper Company, 503 Ludlow street, is sojourning at Miami Beach and is expected to return about the first of March.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, February 14, 1934.

BLANC FIXE.—Steadiness prevails in the blanc fixe market. Prices are holding to previously quoted levels. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market continues fairly active. Shipments against contract are going forward with regularity. Prices are holding to schedule. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is fairly steady. Domestic standard ground is quoted at 12 cents and finely ground at 13 cents per pound. Argentine standard ground is selling at 15½ cents and finely ground at 16 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is persistent. Prices are holding to schedule without difficulty. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3.00 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is displaying a strong undertone. Prices are steady to firm. Imported china clay is quoted at from $13.50 to $21.00 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at works.

CHLORINE.—Some improvement transpired in the chlorine market. The contract movement is well up to average. Prices are steady and unchanged. Chlorine is quoted at from $2.00 to $2.25 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is much firmer. The grades of gum rosin used in the paper mills are now quoted at from $5.75 to $6.10 per 280 pounds, in barrels, at works; while wood rosin is selling at $4.80 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Supplies of salt cake are moving into consumption in good volume. Salt cake is still quoted at from $12 to $14, and chrome salt cake at from $12 to $12.50 per ton, at works; while foreign salt cake is selling at from $12 to $12.50 per ton, on dock.

SODA ASH.—The soda ash market continues buoyant. The contract movement is fairly heavy. Prices are holding to schedule. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.10; in bags, $1.40; and in barrels, $1.50.

STARCH—Conditions in the starch market are satisfactory. Demand is persistent and prices are generally well maintained. Special paper making starch is still quoted at $2.67 per 100 pounds, in bags; and at $2.95 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA—Trading in the sulphate of alumina market is brisk. Contract shipments are moving in good volume. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC—The position of the talc market is practically unchanged. No radical price changes have taken place. Domestic talc is quoted at from 16 to 18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.60	@	.80
White No. 2	.55	@	.70
Anti-Tarnish M. G. only	.75	@	.80
Colored	.80	@	1.00
Kraft	.75	@	.80
Manila	.65	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.11	@	—
No. 2	.10	@	—
Bleached, basis 20 lbs.	.13	@	—

(Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Side Runs	25.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	45.00	@	50.00
Chip	42.50	@	47.50
Sgl. Mla. Ll. Chip	52.50	@	55.00
Jute Lined Chip	52.50	@	55.00
White Patent Coated	60.00	@	65.00
Binders Boards	68.00	@	72.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—		
Moist	25.00	@27.00
Dry	25.00	@28.00

(F.o.b. Mill)

No. 1 Domestic and Canadian	22.00	@28.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—

(On Dock, Atlantic Ports)

Kraft No. 1	1.75	@	1.90
Kraft No. 2	1.60	@	1.70

(F.o.b. Pulp Mill)

Kraft Domestic (Delivered)	1.60	@	2.75
Soda Bleached	2.50	@	—

* Add 5 Cents for Albany and 15 Cents for Lake Ports.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	6.50	@	7.00
Silesias No. 1	4.25	@	4.50
New Unbleached	6.75	@	7.25
New Soft Blacks	3.00	@	3.25
Blue Overall	4.00	@	4.25
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.00	@	1.15
No. 2	.70	@	.75
No. 3	.60	@	.70
No. 4	.55	@	.60
No. 5A	.50	@	.55

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	3.75	@	4.00
No. 2 White Cotton	3.00	@	3.25
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.50	@	1.75
Dark Cottons	1.15	@	1.30
Old Shopperies	1.00	@	1.10
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.40	@	1.50
Domestic	1.30	@	1.40
Wool Tares, light	1.15	@	1.25
Wool Tares, heavy	1.20	@	1.30
Bright Bagging	1.15	@	1.20
Manila Rope—			
Foreign	2.40	@	2.50
Domestic	2.50	@	2.75
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.55	@	2.65
Ordinary Hard White No. 1	2.30	@	2.40
Hard White No. 2	2.00	@	2.10
Soft White No. 1	1.85	@	1.95
Flat Stock—			
Stitchless	.90	@	.95
Overissue Mag	.90	@	1.00
Solid Flat Book	.70	@	.80
Crumpled No. 1	.55	@	.65
Solid Book Ledger	1.50	@	1.65
Ledger Stock	.95	@	1.05
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.60	@	1.70
New Cuttings	1.15	@	1.25
Extra No. 1 old	.75	@	.85
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.20	@	1.30
News—			
No. 1 White News	1.25	@	1.30
Strictly Overissue	.70	@	.75
Strictly Folded	.50	@	.55
No. 1 Mixed Paper	.30	@	.35

J. Andersen & Co.

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New York

CHEMICAL & MECHANICAL PULP

Kraft Pulp

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KALIX TRÄINDUSTRI AKTIEBOLAG
Vanaſjärden, Sweden
MUNKSUNDS AKTIEBOLAG
Munksund, Sweden
NENSJÖ CELLULOSA A.-B.
Sprängsvikeu, Sweden

Unbleached Sulphite

AKTIESELSKABET GREAKER CELLULOSEFABRIK
Greaker, Norway
BERGVIK OCH ALA NYA AKTIEBOLAG
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SVANÖ AKTIEBOLAG
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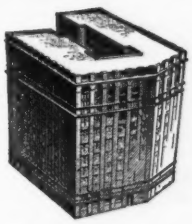

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PAPER MANUFACTURERS CO. INC.
PHILADELPHIA, PA.

Twines
(F. o. b. Mill)

Cotton—			
B. C. 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Flaxseed Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.15	@	.16
Tube Rope—			
4-ply and larger	.09¼	@	.09¾
Fine Tube Rope—			
4-ply	.11¼	@	.11¾
3-ply	.14¼	@	.14¾
2-ply	.14¼	@	.14¾
Paper Makers Twine	.08¼	@	.13¾
Box Twine, 2-3 ply	.14¼	@	.14¾
White Hemp	.13¼	@	.16¾
Java Sisal—			
No. 1 Basis	.11½	@	—
No. 2 Basis	.10½	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.13½	@	.15½
No. 2	.11½	@	.13½
Manila Twine	.24½	@	.29½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¼	@	.15
Sulphite Bond	.05½	@	.15
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S. & S.C. Book	.06¾	@	.07¼
No. 2 S. & S.C. Book	.05¼	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.04¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	51.00
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	Nominal		
No. 1 Hard White	Nominal		
No. 1 Soft White	Nominal		
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Kraffs	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50	@	.55
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.10
Manila Sul., No. 1	.03	@	.06
Manila No. 2	.03	@	.05
No. 1 Kraft	.05¼	@	.06½
No. 2 Kraft	.03¾	@	.05
Southern Kraft	2.75	@	4.00
Common Bogus	.03	@	.04½

(Delivered Philadelphia)

News Print Rolls	46.00	@	55.00
Straw Board	40.00	@	45.00
News Board	50.00	@	—
Chip Board	45.00	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	2.00	@	2.10
No. 1 Soft White	2.05	@	2.10
No. 2 Soft White	1.50	@	1.60
No. 1 Mixed	.95	@	1.00
No. 2 Mixed	.75	@	.80
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.05	@	1.10
No. 1 Books, heavy	.90	@	1.00
No. 2 Books, light	.70	@	.80
No. 1 New Manila	1.20	@	1.30
No. 1 Old Manila	.85	@	.90
Print Manila	.75	@	.80
Container Manila	.65	@	.70
Old Kraft	1.00	@	1.10
Common Paper	.35	@	.40
No. 1 Mixed Paper	.40	@	.45
Straw Board Chip	.40	@	.45
Binders Board Chip	.40	@	.45
Corrugated Board	.60	@	.70
Overissue News	.60	@	.65
Old Newspapers	.40	@	.50

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05¼	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¼	@	.04½
No. 1 Kraft	.04¼	@	.05
No. 2 Kraft	.03¼	@	.04¼

(F. o. b. Boston)

Southern Kraft	.03¼	@	.04½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¼

(Delivered New England points)

News Print, rolls	44.50	@	—
Straw Board, rolls	.009	@	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	45.00	@	50.00
Chip Board	42.50	@	47.00
Chip Board (Creasing)	45.00	@	—
Single Manila Lined Chip	52.50	@	62.50
Single White, Patent Coated News Board—Bender	62.50	@	72.50
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.40	@	—
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.40	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	1.00	@	1.10
No. 1 Books, heavy	.90	@	1.00
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.95	@	1.05
White Blank News	1.20	@	1.30
No. 1 Kraft	1.05	@	1.15
Manila	.75	@	.80
No. 1 Mixed Papers	.27½	@	.30
Print Manila	.45	@	.50
Overissue News	.55	@	.60
Old Newspapers	.47½	@	.50
Box Board Chips	.32½	@	.35
Corrugated Boxes	.35	@	.40
Screening Wrappers	.60	@	.70

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	2.50	@	—
Domestic	—	@	2.50
Transmission Rope	1.60	@	—
Mixed Strings	—	@	.60
Jute Rope	1.15	@	1.35
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.45	@	1.50
Domestic	1.00	@	1.10
Bleachery Burlap	3.00	@	3.25
No. 1 Scrap Burlap	1.00	@	1.10
Scrap Sisal	1.25	@	1.35
Scrap Sisal for shredding	1.25	@	1.35
Wool Tares, heavy	1.25	@	1.30
New Burlap Cuttings	1.35	@	1.60
Australian Wool Pouches	2.25	@	2.50
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.40	@	.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.02	@	.02¼
New White No. 1	.06½	@	—
New White No. 2	.04½	@	.05
Silesias No. 1	.04	@	—
New Black Silesias	.02½	@	.03
New Unbleached	.07	@	.07¼
Blue Cheviot	—	@	4.65
Fancy	—	@	.02½
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—	@	.03¼
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03¼
O. D. Khaki	.03	@	.03¼
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White No. 2—			
Repacked	2.00	@	2.25
Miscellaneous	2.00	@	2.75
Twos and Blues	1.25	@	1.50
Thirds and Blues			
Repacked	1.10	@	1.25
Miscellaneous	.85	@	.90
Black Stockings	2.25	@	2.50
Roofing Stock—			
No. 1	.75	@	1.05
No. 2	.65	@	.75
No. 3	.50	@	.70

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.25	@	1.40
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.40	@	1.50

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¼	@	—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. 1 S. C. (carloads)	6.65	@	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.25	@	—
White Wrap	2.22½	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	5.25	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.25	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	50.00	@	55.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.10
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.50
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.50
Printed Manilas	.70	@	—
Kraft	1.25	@	1.50
News and Scrap—			
Strictly Overissue	1.00	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.03¼	@	.03½
Fancy Shirt Cuttings	.02¼	@	.02½